

Access DB# 96129

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Christopher Keenan Examiner #: 77269 Date: 6/9/03
Art Unit: 1712 Phone Number 305-2778 Serial Number: 09/940513
Mail Box and Bldg/Room Location: CP3 5C14 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____

Inventors (please provide full names): _____

Earliest Priority Filing Date: _____

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Can you please search these claims?
I have art for the structure of claim ~~39~~ 40
in the article as claimed. I have the structure
of claim 2, but not in the article as claimed,
and I don't have anything for claim 39.

Thanks

Chris

Any questions please call.

STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher: <u>R. Fuller</u>	NA Sequence (#) _____	STN <u>✓</u>
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) <u>111</u>	Questel/Orbit _____
Date Searcher Picked Up: _____	Bibliographic _____	Dr.Link _____
Date Completed: <u>6/9/03</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: <u>20</u>	Fulltext _____	Sequence Systems _____
Clerical Prep Time: _____	Patent Family _____	WWW/Internet _____
Online Time: <u>28</u>	Other _____	Other (specify) _____

subset

=> FILE REG

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Property values tagged with IC are from the ZIC/VINITI data file
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STRUCTURE FILE UPDATES: 6 JUN 2003 HIGHEST RN 526915-11-7
DICTIONARY FILE UPDATES: 6 JUN 2003 HIGHEST RN 526915-11-7

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2003

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP
PROPERTIES for more information. See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=> FILE HCAPLUS

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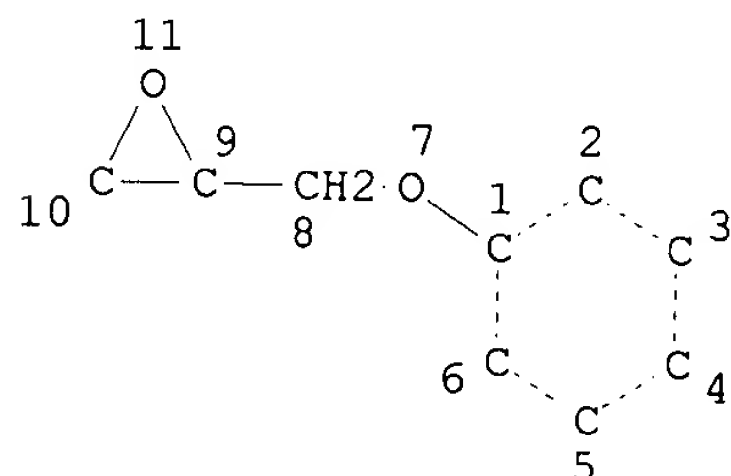
FILE COVERS 1907 - 9 Jun 2003 VOL 138 ISS 24
FILE LAST UPDATED: 8 Jun 2003 (20030608/ED)

This file contains CAS Registry Numbers for easy and accurate
substance identification.

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L3

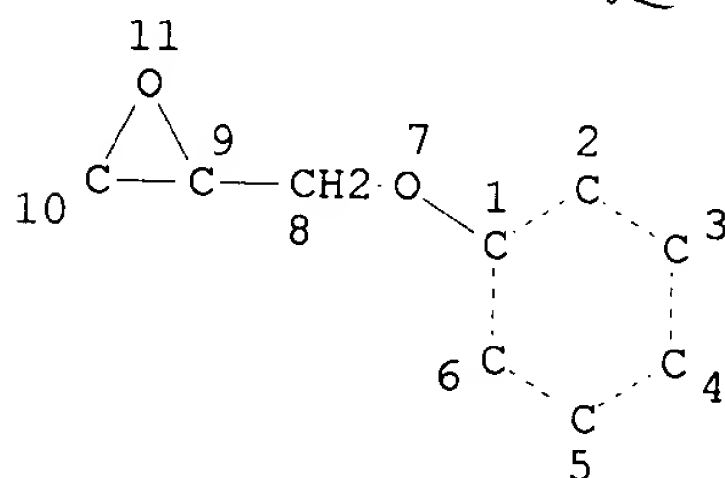
STR



NODE ATTRIBUTES:
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 11

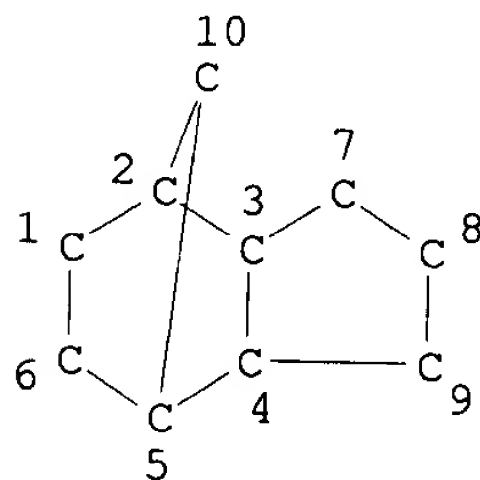
STEREO ATTRIBUTES: NONE
 L4 STR 2



NODE ATTRIBUTES:
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE
 L6 SCR 2043
 L8 13509 SEA FILE=REGISTRY SSS FUL L3 AND L4 AND L6
 L10 STR



Submit search with

Claim 2

NODE ATTRIBUTES:
 DEFAULT MLEVEL IS ATOM

*13,509 polymers from
 structures 1 and 2 - covers
 structural repeating units or
 monomers of the
 polymer*

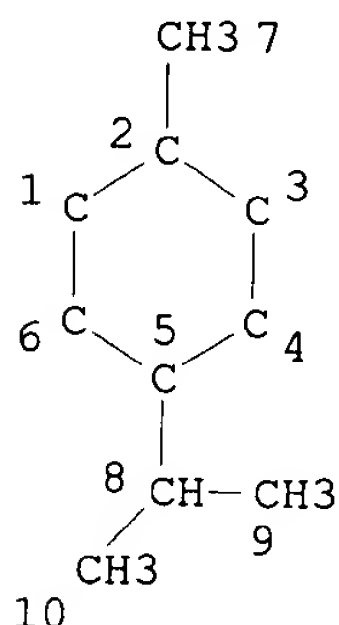
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 10

STEREO ATTRIBUTES: NONE

L12 STR



Chain 39

*polymer
116 structures*

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 10

STEREO ATTRIBUTES: NONE

L14	116	SEA FILE=REGISTRY SUB=L8	SSS FUL (L12 OR L10)
L15	74	SEA FILE=HCAPLUS ABB=ON	L14
L16	6	SEA FILE=HCAPLUS ABB=ON	L15(L)ADHESIV?(L)TAPE#
L17	6	SEA FILE=HCAPLUS ABB=ON	L15 AND ADHESIV?(L)TAPE#
L19	2	SEA FILE=HCAPLUS ABB=ON	L15 AND ADHESIV?(L)SHEET?
L20	7	SEA FILE=HCAPLUS ABB=ON	L17 OR L19 OR L16
L22	11	SEA FILE=HCAPLUS ABB=ON	L15(L)ADHESIV?
L23	11	SEA FILE=HCAPLUS ABB=ON	L20 OR L22

*11 CA references from the
polymers with
utility*

=> D L23 ALL 1-11 HITSTR

L23 ANSWER 1 OF 11 HCAPLUS COPYRIGHT 2003 ACS
AN 2003:240334 HCAPLUS
DN 138:264117
TI **Adhesive tapes** for semiconductor bonding, copper-clad
laminates, package interposers, and semiconductor devices therewith
IN Kamei, Ryuichi; Tsutsumi, Yasuaki
PA Toray Industries, Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM H01L023-14
ICS B32B027-00; C09J007-02; C09J135-00; C09J161-06; C09J163-00;
C09J179-08; C09J201-00
CC 76-3 (Electric Phenomena)

Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003092378	A2	20030328	JP 2002-142833	20020517
PRAI	JP 2001-152405	A	20010522		
AB	The tapes , showing good wire bonding property and low warpage, comprise 10-65-.mu.m-thick org. dielec. layers of moisture expansion coeff. .ltoreq.8 ppm/%RH and adhesive layers (e.g., epoxy resins, phenolic resins, polyimides, and/or maleimide resins) of storage modulus after curing .gtoreq.50 MPa at 150.degree..				
ST	adhesive tape warpage minimized semiconductor wire bonding; interposer semiconductor package polyimide substrated adhesive tape ; moisture expansion storage modulus adhesive tape				
IT	Adhesive tapes Semiconductor devices (adhesive tapes of low moisture expansion in supports and high storage modulus in adhesive layers for semiconductor devices)				
IT	Polyimides, uses RL: TEM (Technical or engineered material use); USES (Uses) (adhesive tapes of low moisture expansion in supports and high storage modulus in adhesive layers for semiconductor devices)				
IT	Laminated materials (clad composites; adhesive tapes of low moisture expansion in supports and high storage modulus in adhesive layers for semiconductor devices)				
IT	Phenolic resins, uses RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (epoxy, adhesive layers; adhesive tapes of low moisture expansion in supports and high storage modulus in adhesive layers for semiconductor devices)				
IT	Electric insulators (interposers; adhesive tapes of low moisture expansion in supports and high storage modulus in adhesive layers for semiconductor devices)				
IT	Polyimides, uses RL: TEM (Technical or engineered material use); USES (Uses) (maleimide-based, adhesive layers; adhesive tapes of low moisture expansion in supports and high storage modulus in adhesive layers for semiconductor devices)				
IT	Epoxy resins, uses RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (phenolic, adhesive layers; adhesive tapes of low moisture expansion in supports and high storage modulus in adhesive layers for semiconductor devices)				
IT	Polyamides, uses RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (supports; adhesive tapes of low moisture expansion in supports and high storage modulus in adhesive layers for semiconductor devices)				
IT	29319-22-0P, 3,3',4,4'-Biphenyltetracarboxylic dianhydride-p-phenylenediamine copolymer				

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(actual monomer, supports; **adhesive tapes** of low moisture expansion in supports and high storage modulus in **adhesive** layers for semiconductor devices)

IT 408331-86-2P, Shonol CKM 1634-Epo Tohto YDC 1312-Epo Tohto ZX 1257 copolymer 502482-48-6P, Adipic acid-hexamethylenediamine-Pripol 1009 copolymer
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**adhesive** layers; **adhesive tapes** of low moisture expansion in supports and high storage modulus in **adhesive** layers for semiconductor devices)

IT 502845-89-8P, Bisphenol A-tert-butylphenol-epichlorohydrin-formaldehyde-H 1-PL 4414 copolymer
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**adhesive tapes** of low moisture expansion in supports and high storage modulus in **adhesive** layers for semiconductor devices)

IT 7440-50-8, Copper, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(clad layers; **adhesive tapes** of low moisture expansion in supports and high storage modulus in **adhesive** layers for semiconductor devices)

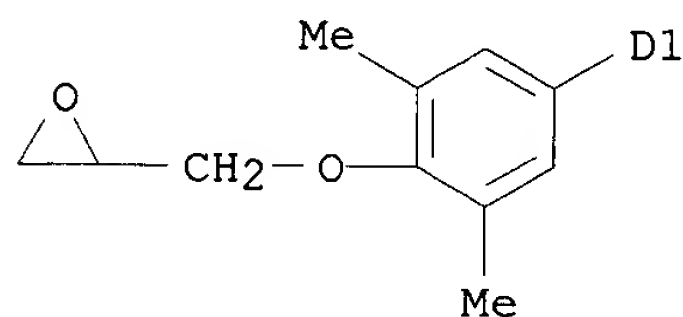
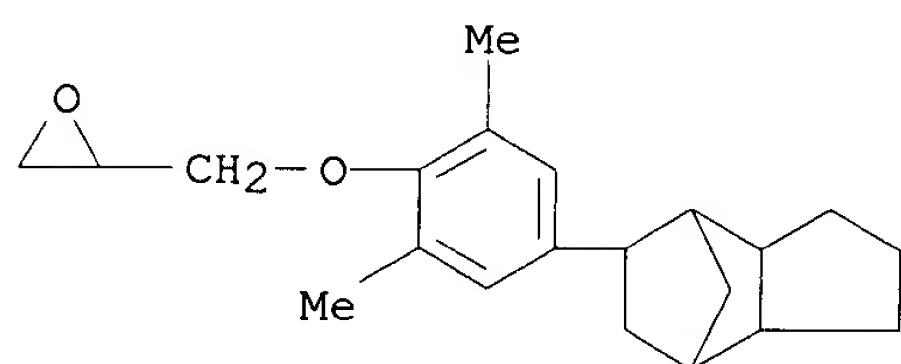
IT 32197-39-0P, 3,3',4,4'-Biphenyltetracarboxylic dianhydride-p-phenylenediamine copolymer, sru
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(supports; **adhesive tapes** of low moisture expansion in supports and high storage modulus in **adhesive** layers for semiconductor devices)

IT 408331-86-2P, Shonol CKM 1634-Epo Tohto YDC 1312-Epo Tohto ZX 1257 copolymer
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**adhesive** layers; **adhesive tapes** of low moisture expansion in supports and high storage modulus in **adhesive** layers for semiconductor devices)

RN 408331-86-2 HCAPLUS
CN Oxirane, 2,2'-[[2,5-bis(1,1-dimethylethyl)-1,4-phenylene]bis(oxymethylene)]bis-, polymer with 2,2'-[(octahydro-4,7-methano-1H-indene-5,?-diyl)bis[(2,6-dimethyl-4,1-phenylene)oxymethylene]]bis[oxirane] and Shonol CKM 1634 (9CI) (CA INDEX NAME)

CM 1

CRN 167569-00-8
CMF C32 H40 O4
CCI IDS



CM 2

CRN 160674-41-9

CMF Unspecified

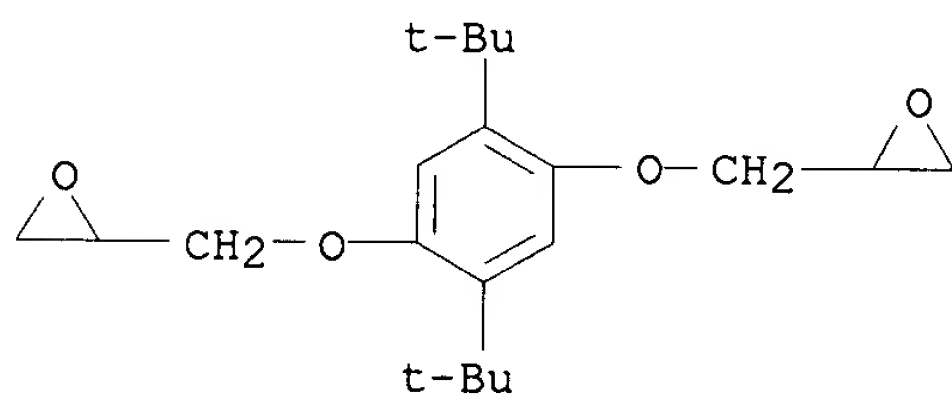
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 3

CRN 64777-22-6

CMF C20 H30 O4



L23 ANSWER 2 OF 11 HCAPLUS COPYRIGHT 2003 ACS

AN 2002:748004 HCAPLUS

DN 137:264119

TI **Adhesive tapes** containing polyimide insulation layer
for laminating copper-clad and semiconductor devices

IN Tsutsumi, Yasuaki; Kamei, Ryuichi

PA Toray Industries, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C09J007-02

ICS C09J135-00; C09J161-06; C09J163-00; C09J179-08; H01L021-60

CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002285110	A2	20021003	JP 2001-84425	20010323
PRAI	JP 2001-84425		20010323		

AB Title **adhesive tapes** comprises at least one layer of org. insulation films having thermal contraction of 0.04-0.3% and thickness of 10-65 .mu.m, and thermosetting **adhesive** layers (e.g., epoxy resins, phenolic resins, polyimides, maleimide-contg. resins). Thus, a PET film was coated with an **adhesive** (contg. adipic acid-hexamethylene diamine-Pripol 1009 copolymer 40, Epo Tohto ZX 1257 20, PL 6222 40 parts a compn. comprising was prepd. by mixing 3,3',4,4'-biphenyltetracarboxylic acid dianhydride and p-phenylenediamine), laminated with polyimide film (3,3',4,4'-biphenyltetracarboxylic acid dianhydride-p-phenylenediamine copolymer) to give an **adhesive tape**, exhibiting low sled characteristic with excellent adhesion and punching property.

ST **adhesive tape** org insulation film laminate copper clad semiconductor

IT Epoxy resins, uses
Phenolic resins, uses
Polyimides, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(**adhesive** layer contg.; manuf. of **adhesive tapes** contg. polyimide insulation layer for laminating copper-clad and semiconductor devices)

IT Electric insulators
(**adhesive tapes**; manuf. of **adhesive tapes** contg. polyimide insulation layer for laminating copper-clad and semiconductor devices)

IT **Adhesive tapes**
(dielec.; manuf. of **adhesive tapes** contg. polyimide insulation layer for laminating copper-clad and semiconductor devices)

IT Polyamides, uses
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(epoxy, **adhesive** layer contg.; manuf. of **adhesive tapes** contg. polyimide insulation layer for laminating copper-clad and semiconductor devices)

IT Polyimides, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(maleimide-based, **adhesive** layer contg.; manuf. of **adhesive tapes** contg. polyimide insulation layer for laminating copper-clad and semiconductor devices)

IT Laminated materials
Semiconductor devices
(manuf. of **adhesive tapes** contg. polyimide insulation layer for laminating copper-clad and semiconductor devices)

IT Epoxy resins, uses
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyamide-, **adhesive** layer contg.; manuf. of **adhesive tapes** contg. polyimide insulation layer for laminating copper-clad and semiconductor devices)

IT 32197-39-0P, Upilex 50S **463965-69-7P**
RL: DEV (Device component use); IMF (Industrial manufacture); TEM
(Technical or engineered material use); PREP (Preparation); USES (Uses)
(**adhesive** layer contg.; manuf. of **adhesive**
tapes contg. polyimide insulation layer for laminating
copper-clad and semiconductor devices)

IT 29319-22-0P, 3,3',4,4'-Biphenyltetracarboxylic acid dianhydride-p-
phenylenediamine copolymer
RL: DEV (Device component use); IMF (Industrial manufacture); TEM
(Technical or engineered material use); PREP (Preparation); USES (Uses)
(insulation layer contg.; manuf. of **adhesive tapes**
contg. polyimide insulation layer for laminating copper-clad and
semiconductor devices)

IT **463965-69-7P**
RL: DEV (Device component use); IMF (Industrial manufacture); TEM
(Technical or engineered material use); PREP (Preparation); USES (Uses)
(**adhesive** layer contg.; manuf. of **adhesive**
tapes contg. polyimide insulation layer for laminating
copper-clad and semiconductor devices)

RN 463965-69-7 HCAPLUS
CN Hexanedioic acid, polymer with 1,6-hexanediamine, 2,2'-[(octahydro-4,7-
methano-1H-indene-5,?-diyl)bis[(2,6-dimethyl-4,1-
phenylene)oxymethylene]]bis[oxirane], PL 6222 and Pripol 1009 (9CI) (CA
INDEX NAME)

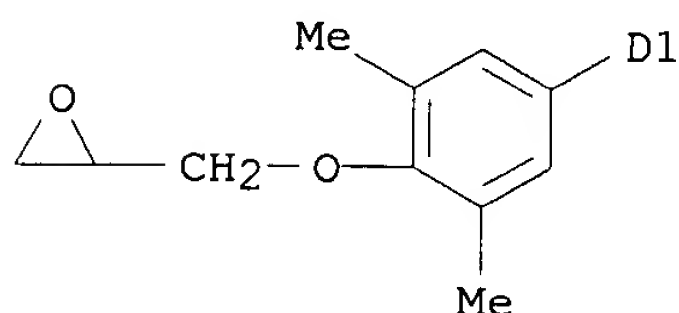
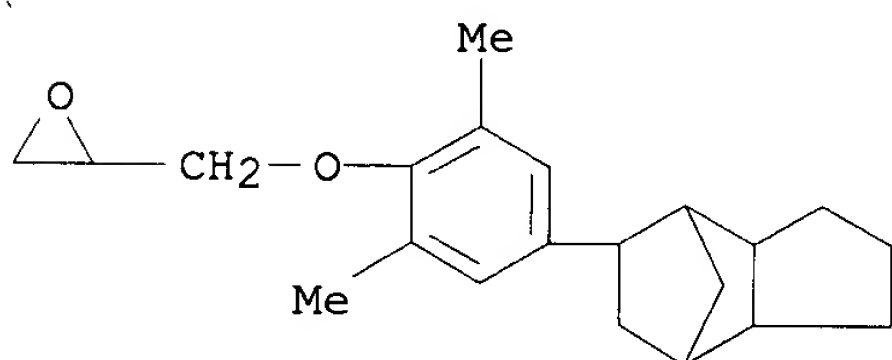
CM 1

CRN 178668-48-9
CMF Unspecified
CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 167569-00-8
CMF C32 H40 O4
CCI IDS



CM 3

CRN 127290-22-6
CMF Unspecified
CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 4

CRN 124-09-4
CMF C6 H16 N2

 $\text{H}_2\text{N}-(\text{CH}_2)_6-\text{NH}_2$

CM 5

CRN 124-04-9
CMF C6 H10 O4

 $\text{HO}_2\text{C}-(\text{CH}_2)_4-\text{CO}_2\text{H}$

L23 ANSWER 3 OF 11 HCAPLUS COPYRIGHT 2003 ACS

AN 2002:253463 HCAPLUS

DN 136:295801

TI **Adhesive sheet** for semiconductor device and
semiconductor device using the **sheet**

IN Tsutsumi, Yasuaki; Kamei, Ryuichi; Shimizu, Takeshi

PA Toray Industries, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM H01L023-12

ICS C09J007-02

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002100695	A2	20020405	JP 2000-290123	20000925
PRAI	JP 2000-290123		20000925		

AB Title **adhesive sheet** with good adhesion and
wire-bonding property and suitable for cutting processing comprises at
least one org. dielec. film with an **adhesive** layer which has a
haze of <20 and an elastic modulus >50 MPa at 150.degree.. Typically, the
adhesive layer comprises a polyamide resin with an acid value of
>3 and at least one epoxy resin. A semiconductor device using the
adhesive sheet is also claimed.

ST **adhesive sheet** semiconductor device; polyamide epoxy
resin **adhesive sheet**

IT Semiconductor devices
(**adhesive sheet** for semiconductor device)

IT Polyamides, uses
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM
(Technical or engineered material use); PREP (Preparation); USES (Uses)
(**adhesive sheet** for semiconductor device)

IT Epoxy resins, uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material
use); USES (Uses)
(**adhesive sheet** for semiconductor device)

IT Phenolic resins, uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material
use); USES (Uses)
(epoxy; **adhesive sheet** for semiconductor device)

IT Epoxy resins, uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material
use); USES (Uses)
(phenolic; **adhesive sheet** for semiconductor device)

IT Polyimides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**sheet; adhesive sheet** for semiconductor
device)

IT **Adhesives**
(**sheets; adhesive sheet** for semiconductor
device)

IT Polyesters, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(substrate **sheet; adhesive sheet** for
semiconductor device)

IT 398125-97-8P
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM
(Technical or engineered material use); PREP (Preparation); USES (Uses)
(**adhesive sheet** for semiconductor device)

IT 408331-83-9 408331-84-0 **408331-85-1 408331-86-2**
408331-87-3
RL: POF (Polymer in formulation); TEM (Technical or engineered material
use); USES (Uses)
(**adhesive sheet** for semiconductor device)

IT 29319-22-0 32197-39-0, Upilex 50S
RL: TEM (Technical or engineered material use); USES (Uses)
(**sheet; adhesive sheet** for semiconductor
device)

IT 25038-59-9, Polyethylene terephthalate, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(substrate **sheet; adhesive sheet** for
semiconductor device)

IT **408331-85-1 408331-86-2 408331-87-3**
RL: POF (Polymer in formulation); TEM (Technical or engineered material
use); USES (Uses)
(**adhesive sheet** for semiconductor device)

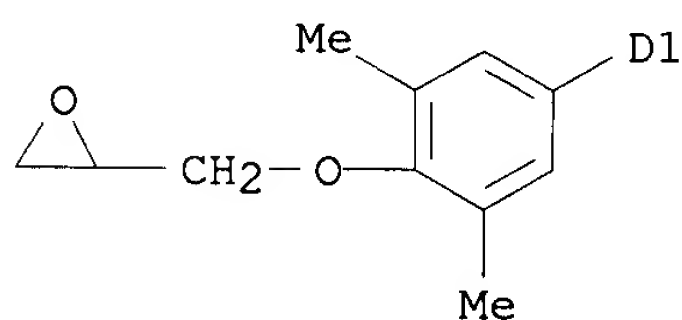
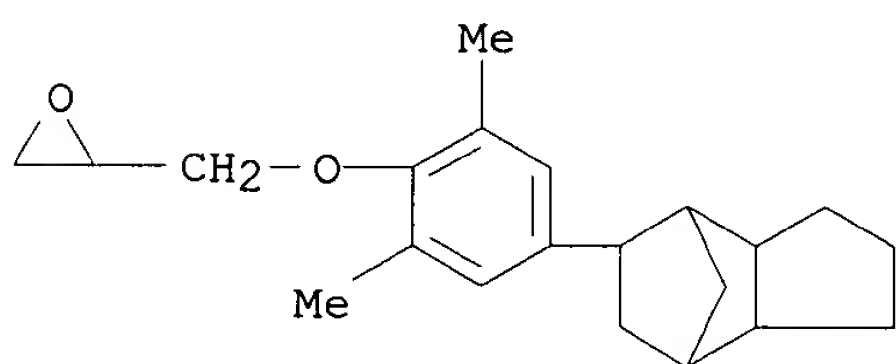
RN 408331-85-1 HCAPLUS

CN Oxirane, 2,2'-[(octahydro-4,7-methano-1H-indene-5,?-diyl)bis[(2,6-dimethyl-
4,1-phenylene)oxymethylene]]bis-, polymer with Shonol CKM 1634 (9CI) (CA
INDEX NAME)

CM 1

CRN 167569-00-8

CMF C32 H40 O4
CCI IDS



CM 2

CRN 160674-41-9
CMF Unspecified
CCI PMS, MAN

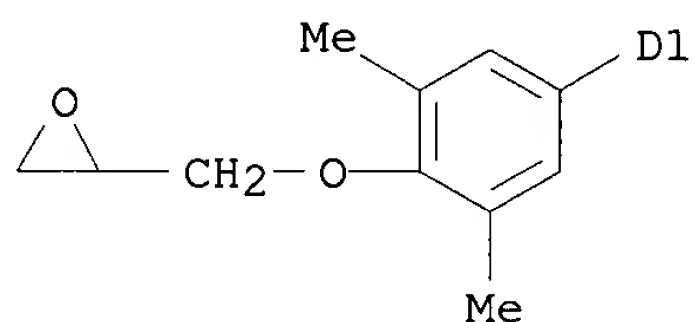
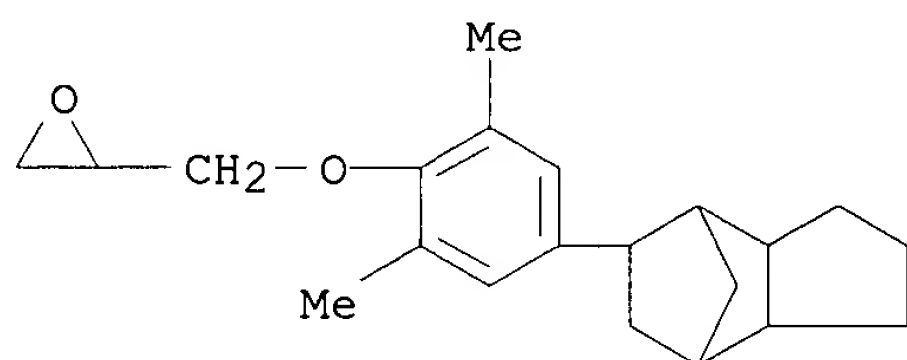
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RN 408331-86-2 HCAPLUS

CN Oxirane, 2,2'-[[2,5-bis(1,1-dimethylethyl)-1,4-phenylene]bis(oxymethylene)]bis-, polymer with 2,2'-[(octahydro-4,7-methano-1H-indene-5,?-diyl)bis[(2,6-dimethyl-4,1-phenylene)oxymethylene]]bis[oxirane] and Shonol CKM 1634 (9CI) (CA INDEX NAME)

CM 1

CRN 167569-00-8
CMF C32 H40 O4
CCI IDS



CM 2

CRN 160674-41-9

CMF Unspecified

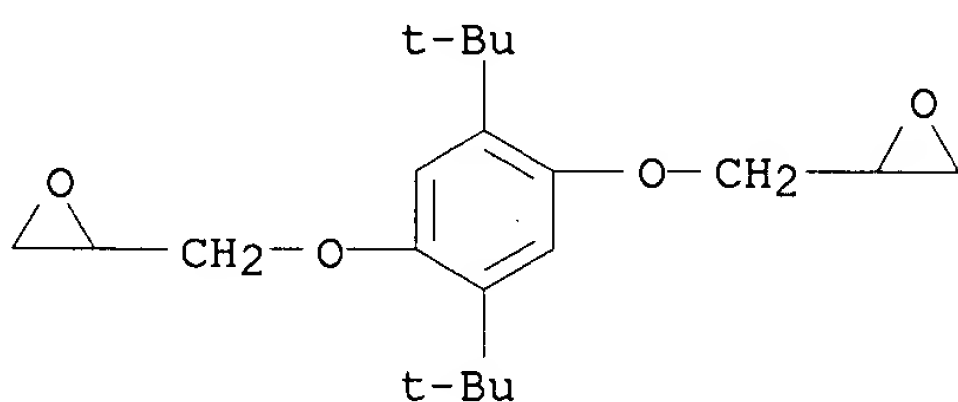
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 3

CRN 64777-22-6

CMF C20 H30 O4



RN 408331-87-3 HCAPLUS

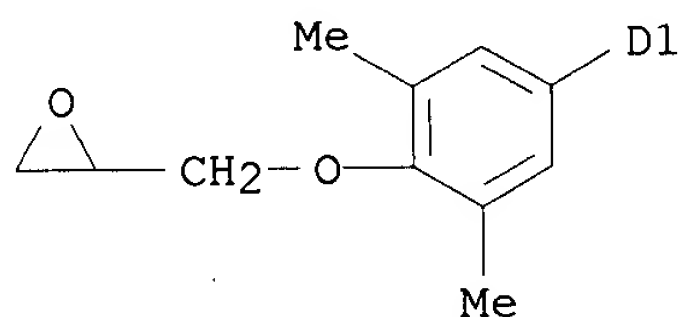
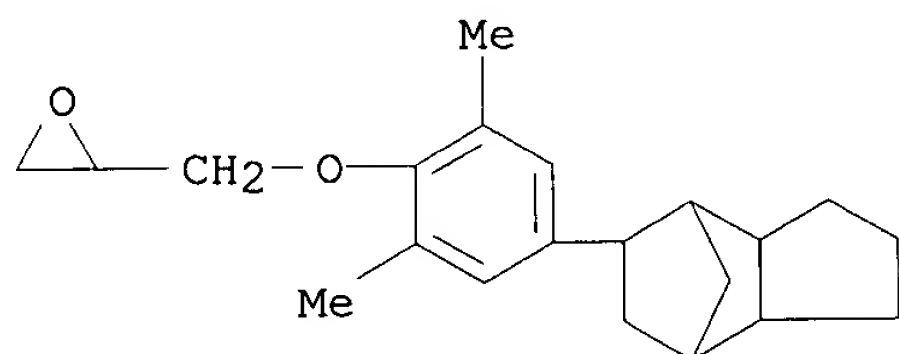
CN Oxirane, 2,2'-[(octahydro-4,7-methano-1H-indene-5,?-diyl)bis[(2,6-dimethyl-4,1-phenylene)oxymethylene]]bis-, polymer with EOCN 6000 and Shonol CKM 1634 (9CI) (CA INDEX NAME)

CM 1

CRN 167569-00-8

CMF C32 H40 O4

CCI IDS



CM 2

CRN 160674-41-9

CMF Unspecified

CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 3

CRN 152787-24-1

CMF Unspecified

CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L23 ANSWER 4 OF 11 HCAPLUS COPYRIGHT 2003 ACS

AN 2001:220259 HCAPLUS

DN 134:238646

TI Fast-curing low-stress adhesive pastes useful for bonding copper frames to large-scale semiconductor chips

IN Ito, Shingo

PA Sumitomo Bakelite Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08G059-24

ICS C08K003-00; C08L063-00

CC 38-3 (Plastics Fabrication and Uses)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001081155	A2	20010327	JP 1999-259122	19990913
PRAI	JP 1999-259122		19990913		

AB The pastes with good heat-resistant adhesive strength contain epoxy resins 100, latent curing agents 0.5-5, imidazole compds. 0.5-10 parts and inorg. fillers where the epoxy resins comprise liq. epoxy resin component based

on diglycidoxymethyltrimethylenenorbornane compd. (I) and epoxy group-contg. reactive diluents. Thus, mixing I 18.2 with Ph glycidyl ether 9.8, dicyandiamide 0.6, 2-phenyl-4-methyl-5-hydroxymethylimidazole 1.4 and Ag 70.0 parts gave a paste with viscosity 136 P, good adhesive strength and low stress.

ST electronic bonding low stress adhesive paste epoxy resin liq;
semiconductor chip bonding low stress adhesive paste; copper frame bonding
low stress adhesive paste epoxy resin

IT Adhesives

(conductive; fast-curing low-stress adhesive pastes useful for bonding
copper frames to large-scale semiconductor chips)

IT Semiconductor device fabrication

(fast-curing low-stress adhesive pastes useful for bonding copper
frames to large-scale semiconductor chips)

IT Epoxy resins, uses

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or
engineered material use); USES (Uses)

(fast-curing low-stress adhesive pastes useful for bonding copper
frames to large-scale semiconductor chips)

IT Adhesives

(heat-resistant; fast-curing low-stress adhesive pastes useful for
bonding copper frames to large-scale semiconductor chips)

IT 13682-32-1, 2-Phenyl-4-methyl-5-hydroxymethylimidazole

RL: CAT (Catalyst use); USES (Uses)

(curing accelerator; fast-curing low-stress adhesive pastes useful for
bonding copper frames to large-scale semiconductor chips)

IT 7440-22-4, Silver, uses

RL: MOA (Modifier or additive use); USES (Uses)

(elec. conductors; fast-curing low-stress adhesive pastes useful for
bonding copper frames to large-scale semiconductor chips)

IT **330472-18-9**, Dicyandiamide-diglycidoxymethyltrimethylenenorbornane-
phenyl glycidyl ether copolymer

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or
engineered material use); USES (Uses)

(fast-curing low-stress **adhesive** pastes useful for bonding
copper frames to large-scale semiconductor chips)

IT **330472-18-9**, Dicyandiamide-diglycidoxymethyltrimethylenenorbornane-
phenyl glycidyl ether copolymer

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or
engineered material use); USES (Uses)

(fast-curing low-stress **adhesive** pastes useful for bonding
copper frames to large-scale semiconductor chips)

RN 330472-18-9 HCAPLUS

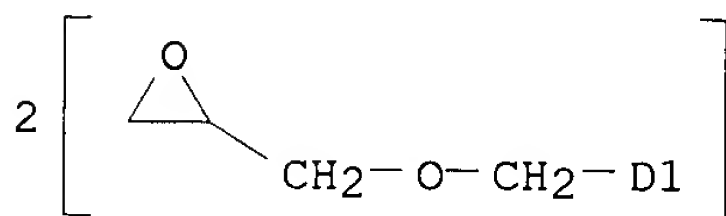
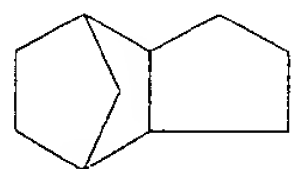
CN Guanidine, cyano-, polymer with 2,2'-[(octahydro-4,7-methano-1H-indene-5,?-
diyl)bis(methyleneoxymethylene)]bis[oxirane] and (phenoxymethyl)oxirane
(9CI) (CA INDEX NAME)

CM 1

CRN 50985-55-2

CMF C18 H28 O4

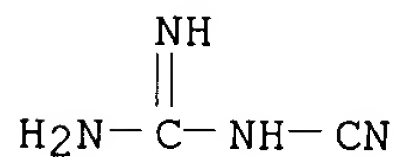
CCI IDS



CM 2

CRN 461-58-5

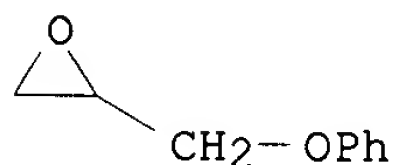
CMF C2 H4 N4



CM 3

CRN 122-60-1

CMF C9 H10 O2



L23 ANSWER 5 OF 11 HCAPLUS COPYRIGHT 2003 ACS

AN 1998:594861 HCAPLUS

DN 129:290977

TI **Adhesive tapes** for **tape**-automated bonding,
semiconductor chip-mounted substrate, and semiconductor device

IN Takahashi, Hideo; Sawamura, Taiji; Kabashima, Akihiro

PA Toray Industries, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM H01L021-60

ICS C08G059-24; C09J007-02; C09J163-00; C09J177-00

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	JP 10242215	A2	19980911	JP 1997-39295	19970224

PRAI JP 1997-39295
GI

19970224

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

- AB The **tapes**, showing excellent insulation reliability, heat resistance, and hot adhesion, comprise **adhesive** layers and insulating films with surfaces coated with adhesion aids such as polyamides and epoxy resins. The epoxy resins in the adhesion aid layers may contain .gtoreq.1 of I-IV [R1-30 = H, C1-4 alkyl, halo (2 of R9-16 = 2,3-epoxypropoxy)]. The adhesion aid layers may be .ltoreq.1 (preferably .ltoreq.0.5)-.mu.m thick. The insulation films may be polyimides. The semiconductor devices and their chip-mounted substrates use the **tapes**. Thus, a 0.05%-solid coating of 45:25:30:1 (%) Macromelt 6801/HP 4032/PR 50087/BF3 monoethylamine salt was applied on Upilex S and dried to give a support, while a compn. of 40:19.9:40:0.1 (%) Priadit 2053/Epikote 828/CKM 1282/Ph3P was applied on release-agent-coated Lumirror and dried to give an **adhesive sheet**. Then, the support was laminated with the **adhesive sheet** to give an **adhesive tape**, which was removed of the release film, hot laminated with an electrolytic Cu foil, and treated at 80.degree., 100.degree., and at 150.degree. resp. for 5 h to give a specimen showing peeling strength 1.12 kg/cm, insulation breakdown >500 h, heat distortion temp. 170.degree., and elastic modulus 3800 MPa.
- ST TAB **adhesive tape** semiconductor chip bonding; polyamide epoxy resin primer TAB **tape**; **tape** automated bonding semiconductor chip packaging; insulation breakdown reliability TAB polyimide **tape**
- IT Electronic packaging materials
(TAB **tapes**; **adhesive tapes** with adhesion aid layers contg. polyamides and epoxy resins for TAB packaging)
- IT Phenolic resins, uses
RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(adhesion aid layers; **adhesive tapes** with adhesion aid layers contg. polyamides and epoxy resins for TAB packaging)
- IT Polyamides, uses
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(adhesion aid layers; **adhesive tapes** with adhesion aid layers contg. polyamides and epoxy resins for TAB packaging)
- IT Epoxy resins, uses
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(**adhesive tapes** with adhesion aid layers contg. polyamides and epoxy resins for TAB packaging)
- IT **Adhesives**
(pressure-sensitive, **tapes**; **adhesive tapes** with adhesion aid layers contg. polyamides and epoxy resins for TAB packaging)
- IT Phenolic resins, uses
RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(resol, adhesion aid layers; **adhesive tapes** with adhesion aid layers contg. polyamides and epoxy resins for TAB

packaging)

IT Semiconductor devices
(substrates; **adhesive tapes** with adhesion aid
layers contg. polyamides and epoxy resins for TAB packaging)

IT Polyimides, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES
(Uses)
(supports; **adhesive tapes** with adhesion aid layers
contg. polyamides and epoxy resins for TAB packaging)

IT 155646-97-2, Sumilit PR 50087 161107-77-3, PSM 4326
RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or
engineered material use); USES (Uses)
(adhesion aid layers; **adhesive tapes** with adhesion
aid layers contg. polyamides and epoxy resins for TAB packaging)

IT 82115-71-7, Macromelt 6900 85189-39-5, Macromelt 6901 131406-13-8, HP
4032 **172305-87-2**, ZX 1257
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or
engineered material use); USES (Uses)
(adhesion aid layers; **adhesive tapes** with adhesion
aid layers contg. polyamides and epoxy resins for TAB packaging)

IT 57459-88-8, CKM 1282
RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or
engineered material use); USES (Uses)
(**adhesive** layers; **adhesive tapes** with
adhesion aid layers contg. polyamides and epoxy resins for TAB
packaging)

IT 25068-38-6, Epikote 828 158164-04-6, Priadit 2053
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or
engineered material use); USES (Uses)
(**adhesive** layers; **adhesive tapes** with
adhesion aid layers contg. polyamides and epoxy resins for TAB
packaging)

IT 160674-41-9, Shonol CKM 1634
RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or
engineered material use); USES (Uses)
(**adhesive tapes** with adhesion aid layers contg.
polyamides and epoxy resins for TAB packaging)

IT 29319-22-0, 3,3',4,4'-Biphenyl dianhydride-p-phenylenediamine copolymer
RL: PRP (Properties); TEM (Technical or engineered material use); USES
(Uses)
(**adhesive tapes** with adhesion aid layers contg.
polyamides and epoxy resins for TAB packaging)

IT 32197-39-0, Upilex S
RL: PRP (Properties); TEM (Technical or engineered material use); USES
(Uses)
(supports; **adhesive tapes** with adhesion aid layers
contg. polyamides and epoxy resins for TAB packaging)

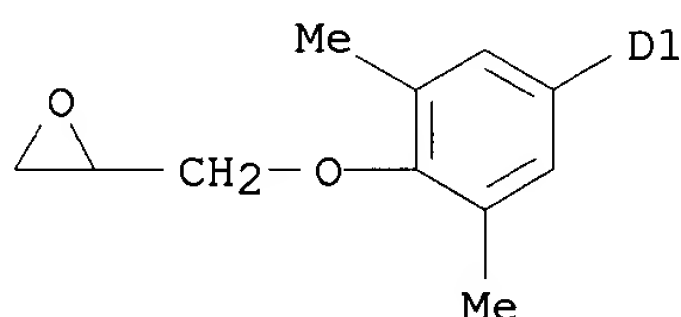
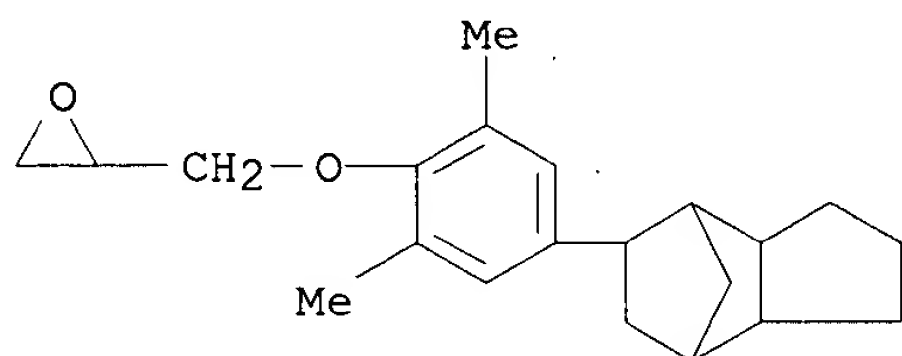
IT **172305-87-2**, ZX 1257
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or
engineered material use); USES (Uses)
(adhesion aid layers; **adhesive tapes** with adhesion
aid layers contg. polyamides and epoxy resins for TAB packaging)

RN 172305-87-2 HCAPLUS

CN Oxirane, 2,2'-[(octahydro-4,7-methano-1H-indene-5,?-diyl)bis[(2,6-dimethyl-
4,1-phenylene)oxymethylene]]bis-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 167569-00-8
 CMF C32 H40 O4
 CCI IDS



L23 ANSWER 6 OF 11 HCAPLUS COPYRIGHT 2003 ACS
 AN 1998:256017 HCAPLUS
 DN 129:5386
 TI Pliable **adhesive tapes** for use in mounting of
 copper-plated boards and parts of semiconductor devices
 IN Kigoshi, Shoji; Hatano, Hiroshi; Konishi, Yukitsuna
 PA Toray Industries, Inc., Japan
 SO Jpn. Kokai Tokkyo Koho, 13 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM H01L021-60
 ICS B32B007-12; C09J007-00; C09J161-00; C09J163-00; C09J177-00;
 C09J201-00
 CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 76
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10107093	A2	19980424	JP 1997-100970	19970402
PRAI	JP 1996-106279		19960402		

AB The title **tapes** comprise a flexible org. insulative film support, an **adhesive** layer and a protective layer, where the **adhesive** layer is that which can form into .gtoreq.2 continuous micro-phases on thermal curing for improving the reliability of insulation under heat and moisture fluctuation. Thus, coating an org. soln. contg. a polyamide derived from dimer acid and hexamethylenediamine, 45, CKS-394 27, CKM-1282 10, PR-11078 10, Epiclon HP 4032D 5, Epikote 871 3% and UCAT SA 831 on a Upilex 75S (polyimide) film to pickup thickness of .apprx.18 .mu.m, drying and overlaying on top with a PET polyester protecting film gave a title **tape**.

ST pliable **adhesive tape** circuit board mounting; flexible **adhesive tape** circuit board mounting; semiconductor mounting flexible **adhesive tape**; phase sepn

- adhesive tape** semiconductor mounting
- IT Phenolic resins, uses
 RL: MOA (Modifier or additive use); POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
 (crosslinkers, thermally curable **adhesive** compns.; for pliable **adhesive tapes** for use in mounting of copper-plated boards and parts of semiconductor devices)
- IT Fatty acids, uses
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (dimer acids, polyamides with diamines, thermally curable **adhesive** compns.; for pliable **adhesive tapes** for use in mounting of copper-plated boards and parts of semiconductor devices)
- IT **Adhesive tapes**
 Semiconductor devices
 (pliable **adhesive tapes** for use in mounting of copper-plated boards and parts of semiconductor devices)
- IT Polyesters, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (protecting film; for pliable **adhesive tapes** for use in mounting of copper-plated boards and parts of semiconductor devices)
- IT Polyimides, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (support; for pliable **adhesive tapes** for use in mounting of copper-plated boards and parts of semiconductor devices)
- IT Epoxy resins, uses
 Polyamides, uses
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (thermally curable **adhesive** compns.; for pliable **adhesive tapes** for use in mounting of copper-plated boards and parts of semiconductor devices)
- IT 25038-59-9, Lumirror, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (protecting film; for pliable **adhesive tapes** for use in mounting of copper-plated boards and parts of semiconductor devices)
- IT 32197-39-0, Upilex 75S
 RL: TEM (Technical or engineered material use); USES (Uses)
 (support; for pliable **adhesive tapes** for use in mounting of copper-plated boards and parts of semiconductor devices)
- IT 124-09-4D, 1,6-Hexanediamine, polyamide with dimer acid, uses 9085-51-2, Epikote 871 25068-38-6, Epikote 828 57459-88-8, CKM-1282 67255-47-4, Sumilit PR 11078 93752-94-4, Bisphenol A-cresol-formaldehyde copolymer 111566-48-4, CKM 908 131406-13-8 155646-97-2, Sumilit PR-50087 **172305-87-2**, ZX 1257 194044-55-8, Shonol CKS-394 207309-21-5, PG 4121
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (thermally curable **adhesive** compns.; for pliable **adhesive tapes** for use in mounting of copper-plated boards and parts of semiconductor devices)
- IT **172305-87-2**, ZX 1257
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (thermally curable **adhesive** compns.; for pliable

adhesive tapes for use in mounting of copper-plated boards and parts of semiconductor devices)

RN 172305-87-2 HCAPLUS

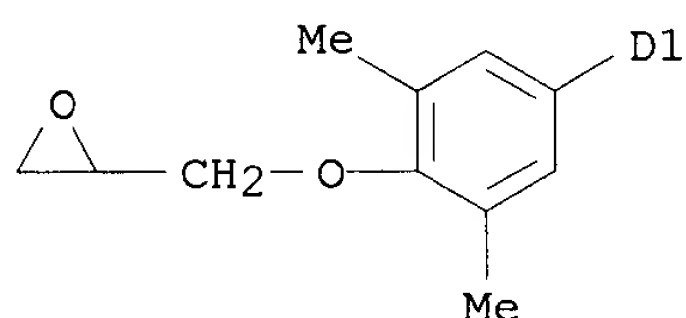
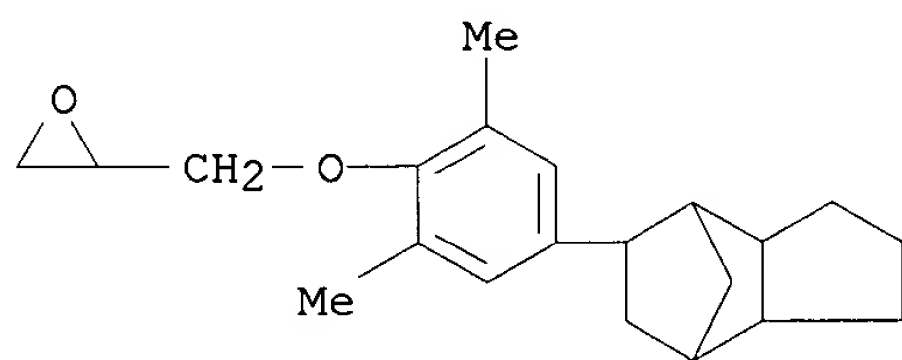
CN Oxirane, 2,2'-[(octahydro-4,7-methano-1H-indene-5,7-diyl)bis[(2,6-dimethyl-4,1-phenylene)oxymethylene]]bis-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 167569-00-8

CMF C32 H40 O4

CCI IDS



L23 ANSWER 7 OF 11 HCAPLUS COPYRIGHT 2003 ACS

AN 1998:239261 HCAPLUS

DN 128:258067

TI Norbornene polymer compositions, and moldings, laminates, and prepreps thereof, with excellent dielectric and adhesive properties

IN Kodemura, Junji; Tsunogae, Yasuo; Wakizaka, Yasuhiro

PA Nippon Zeon Co., Ltd., Japan; Kodemura, Junji; Tsunogae, Yasuo; Wakizaka, Yasuhiro

SO PCT Int. Appl., 68 pp.
CODEN: PIXXD2

DT Patent

LA Japanese

IC ICM C08L065-00

ICS C08L045-00; C08L063-02; C08L079-08

CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9815595	A1	19980416	WO 1997-JP3651	19971009
	W: CN, JP, KR, US				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 931816	A1	19990728	EP 1997-944102	19971009
	R: CH, DE, FR, GB, LI, FI				
	KR 2000048957	A	20000725	KR 1999-703004	19990407
	US 6492443	B1	20021210	US 1999-269964	19990407
PRAI	JP 1996-287688	A	19961009		

KATHLEEN FULLER EIC 1700/PARKER LAW 308-4290

JP 1997-218066 A 19970729
WO 1997-JP3651 W 19971009

AB The title compns. comprise 100 parts thermoplastic norbornene polymer and 1-150 parts thermosetting resins. A polymer was prep'd. from 8-ethyltetracyclo[4.4.0.12,5.17,10]-3-dodecene using 1-hexene for mol. wt. control in the presence of WC16, compounded with 2,5-dimethyl-2,5-bis(tert-butylperoxy)-3-hexyne, TAIC, AER6017, and 2-ethyl-4-methylimidazole.

ST dielec adhesive norbornene polymer compn; thermoplastic norbornene polymer thermosetting resin blend

IT Epoxy resins, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)
(modified; norbornene polymer compns., and moldings, laminates, and prepregs thereof, with excellent dielec. and adhesive properties)

IT Electric insulators
(norbornene polymer compns., and moldings, laminates, and prepregs thereof, with excellent dielec. and adhesive properties)

IT Laminated plastics, preparation
Molded plastics, preparation
Polymer blends
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)
(norbornene polymer compns., and moldings, laminates, and prepregs thereof, with excellent dielec. and adhesive properties)

IT 108-31-6DP, Maleic anhydride, reaction products with norbornene polymers 185845-87-8DP, 2-Norbornene-5-phenyl-2-norbornene copolymer, maleated
205304-89-8P 205304-90-1P **205304-91-2P** 205304-92-3P
205304-93-4P 205304-94-5DP, 2-Norbornene-5-phenyl-2-norbornene-5-ethylidene-2-norbornene copolymer, epoxidized 205304-95-6DP,
2-Norbornene-divinylbenzene copolymer, epoxidized 205304-96-7P
205304-98-9P 205304-99-0P 205305-00-6P 205305-01-7P 205305-02-8P
205305-03-9P 205305-04-0P 205305-05-1P
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)
(norbornene polymer compns., and moldings, laminates, and prepregs thereof, with excellent dielec. and **adhesive** properties)

IT 25085-99-8, Araldite AER 6071 188763-07-7, AralditeAER 8010
205304-97-8
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(norbornene polymer compns., and moldings, laminates, and prepregs thereof, with excellent dielec. and adhesive properties)

IT 1025-15-6, TAIC
RL: RCT (Reactant); RACT (Reactant or reagent)
(norbornene polymer compns., and moldings, laminates, and prepregs thereof, with excellent dielec. and adhesive properties)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Showa Denko K K; JP 53-88096 A 1978 HCAPLUS
(2) Toshiba Chemical Corp; JP 06-21152 B2 1994 HCAPLUS
(3) Toshiba Chemical Corp; JP 06-29359 B2 1994 HCAPLUS
(4) Toshiba Chemical Corp; JP 07-82461 A 1995 HCAPLUS

IT **205304-89-8P 205304-91-2P**
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)
(norbornene polymer compns., and moldings, laminates, and prepregs thereof, with excellent dielec. and **adhesive** properties)

RN 205304-89-8 HCAPLUS

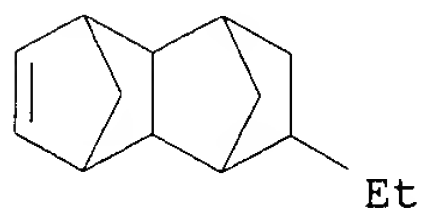
CN 1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-tri-2-propenyl-, polymer with

2-ethyl-1,2,3,4,4a,5,8,8a-octahydro-1,4:5,8-dimethanonaphthalene, 1-hexene
and 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]
(9CI) (CA INDEX NAME)

CM 1

CRN 72896-13-0

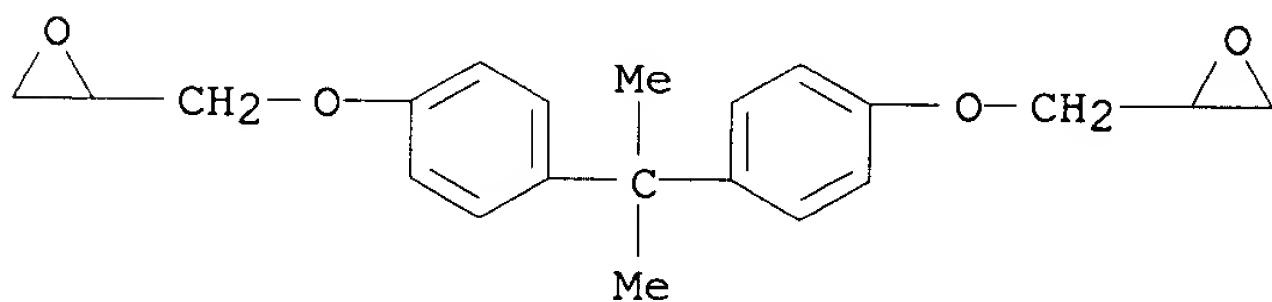
CMF C14 H20



CM 2

CRN 1675-54-3

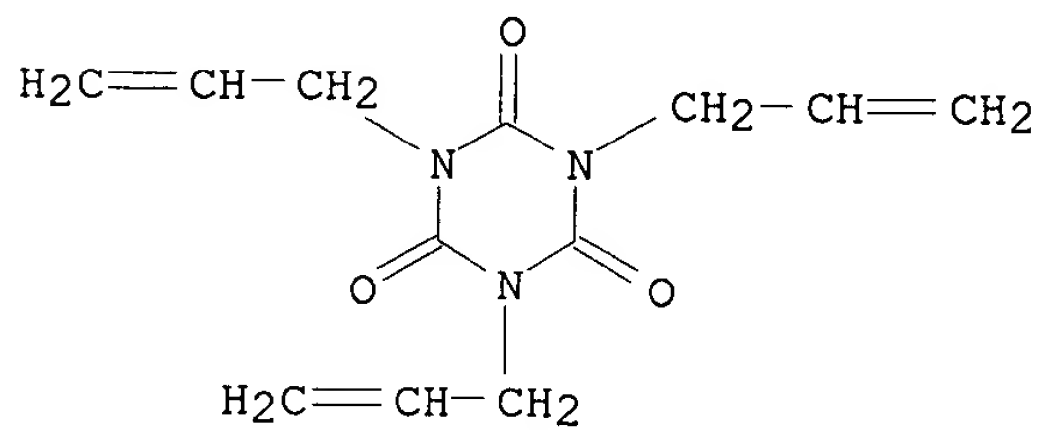
CMF C21 H24 O4



CM 3

CRN 1025-15-6

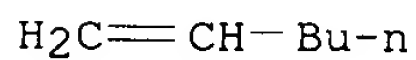
CMF C12 H15 N3 O3



CM 4

CRN 592-41-6

CMF C6 H12



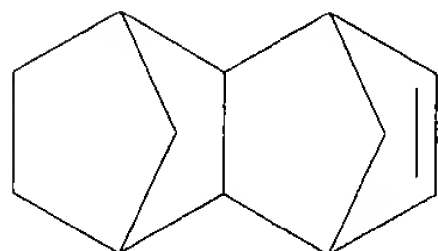
RN 205304-91-2 HCAPLUS

CN 1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-tri-2-propenyl-, polymer with ethene, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane] and 1,2,3,4,4a,5,8,8a-octahydro-1,4:5,8-dimethanonaphthalene (9CI) (CA INDEX NAME)

CM 1

CRN 21635-90-5

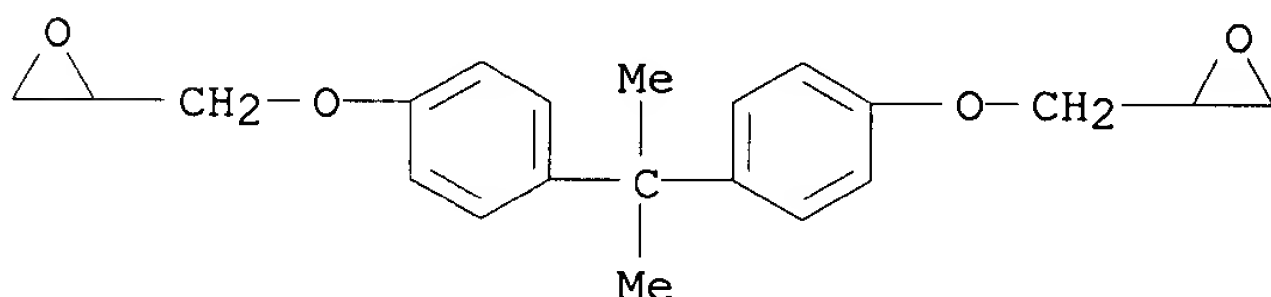
CMF C12 H16



CM 2

CRN 1675-54-3

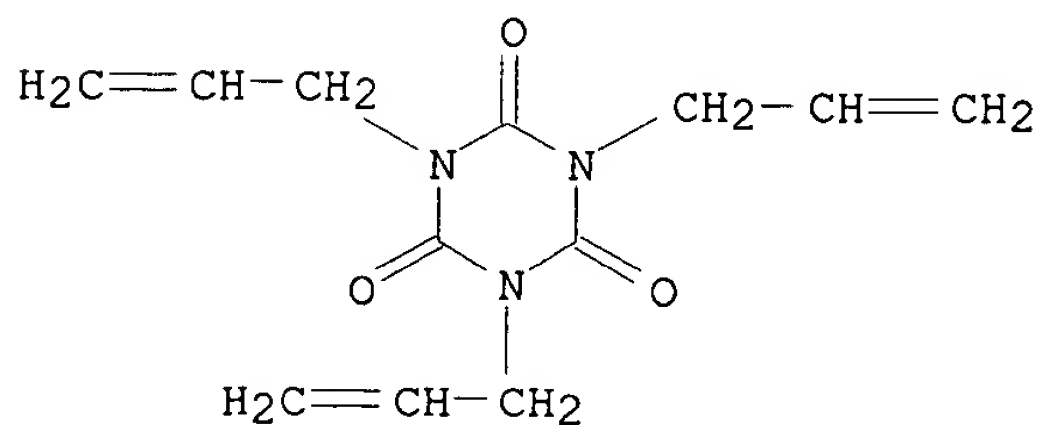
CMF C21 H24 O4



CM 3

CRN 1025-15-6

CMF C12 H15 N3 O3



CM 4

CRN 74-85-1

CMF C2 H4

H₂C=CH₂

L23 ANSWER 8 OF 11 HCAPLUS COPYRIGHT 2003 ACS

AN 1997:743915 HCAPLUS

DN 128:4471

TI **Adhesive tapes** for **tape** automated bonding
and semiconductor devices

IN Sawamura, Yasuji; Hatano, Hiroshi; Kigoshi, Shoji

PA Toray Industries, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM H01L021-60

ICS C08G059-24; C09J007-02; C09J161-04; C09J163-00; C09J177-00

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09298220	A2	19971118	JP 1996-113622	19960508
PRAI	JP 1996-113622		19960508		

AB Adhesives contain thermoplastic resins, epoxy resins, 5-70% silica having av. granule diam. <10 .mu.m and max. diam. <20 .mu.m. Thus, an adhesive on a Upilex 75S film contained 4,4'-bis(2,3-epoxypropoxy)-3,3',5,5'-tetramethylbiphenyl 20, a dimer acid polyamide 40, fused silica 20, CKM 1282 19.8, and 2-heptadecylimidazole 0.2%.

ST **adhesive tape** automated bonding; semiconductor
tape automated bonding; epoxy phenolic resin silica
adhesive

IT **Adhesive tapes**
Semiconductor devices
(**adhesive tapes** contg. epoxy resins and thermoplastic resins and phenolic resins and silica for **tape** automated bonding for semiconductor devices)

IT Phenolic resins, uses
RL: MOA (Modifier or additive use); USES (Uses)
(**adhesive tapes** contg. epoxy resins and thermoplastic resins and phenolic resins and silica for **tape** automated bonding for semiconductor devices)

IT Polyamides, uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(**adhesive tapes** contg. epoxy resins and thermoplastic resins and phenolic resins and silica for **tape** automated bonding for semiconductor devices)

IT Fatty acids, uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(dimer acids, polymers with hexamethylenediamine; **adhesive tapes** contg. epoxy resins and thermoplastic resins and phenolic resins and silica for **tape** automated bonding for semiconductor devices)

IT Polyimides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(films; **adhesive tapes** contg. epoxy resins and

thermoplastic resins and phenolic resins and silica for **tape**
automated bonding for semiconductor devices)

IT Crosslinking agents
(phenolic resins; **adhesive tapes** contg. epoxy
resins and thermoplastic resins and phenolic resins and silica for
tape automated bonding for semiconductor devices)

IT Plastics, uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material
use); USES (Uses)
(thermoplastics; **adhesive tapes** contg. epoxy resins
and thermoplastic resins and phenolic resins and silica for
tape automated bonding for semiconductor devices)

IT 57459-88-8, CKM 1282 60676-86-0, Fused silica
RL: MOA (Modifier or additive use); USES (Uses)
(**adhesive tapes** contg. epoxy resins and
thermoplastic resins and phenolic resins and silica for **tape**
automated bonding for semiconductor devices)

IT 124-09-4D, 1,6-Hexanediamine, polymers with dimer acids, uses
25068-38-6, Bisphenol A epoxy resin 27610-48-6 85954-11-6,
4,4'-Bis(2,3-epoxypropoxy)-3,3',5,5'-tetramethylbiphenyl
172305-87-2, ZX 1257
RL: POF (Polymer in formulation); TEM (Technical or engineered material
use); USES (Uses)
(**adhesive tapes** contg. epoxy resins and
thermoplastic resins and phenolic resins and silica for **tape**
automated bonding for semiconductor devices)

IT 80236-90-4, 3,3',4,4'-Biphenyltetracarboxylic acid-p-phenylenediamine
copolymer
RL: TEM (Technical or engineered material use); USES (Uses)
(films; **adhesive tapes** contg. epoxy resins and
thermoplastic resins and phenolic resins and silica for **tape**
automated bonding for semiconductor devices)

IT 32197-39-0, Upilex 75S
RL: TEM (Technical or engineered material use); USES (Uses)
(polyimide films; **adhesive tapes** contg. epoxy
resins and thermoplastic resins and phenolic resins and silica for
tape automated bonding for semiconductor devices)

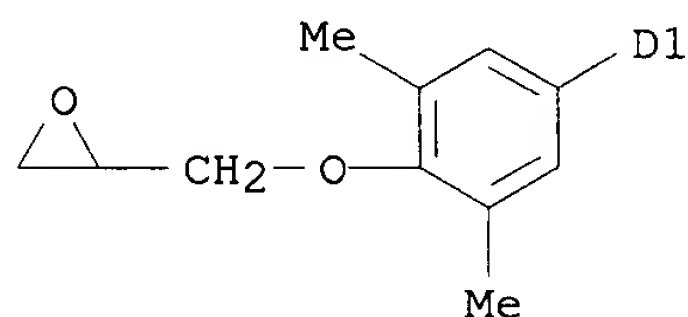
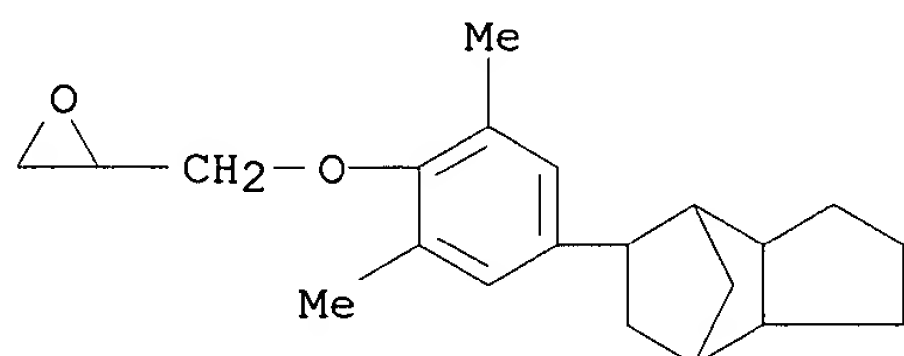
IT **172305-87-2**, ZX 1257
RL: POF (Polymer in formulation); TEM (Technical or engineered material
use); USES (Uses)
(**adhesive tapes** contg. epoxy resins and
thermoplastic resins and phenolic resins and silica for **tape**
automated bonding for semiconductor devices)

RN 172305-87-2 HCAPLUS

CN Oxirane, 2,2'-[(octahydro-4,7-methano-1H-indene-5,?-diyl)bis[(2,6-dimethyl-
4,1-phenylene)oxymethylene]]bis-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 167569-00-8
CMF C32 H40 O4
CCI IDS



L23 ANSWER 9 OF 11 HCAPLUS COPYRIGHT 2003 ACS

AN 1997:731593 HCAPLUS

DN 128:13899

TI **Adhesive tapes** used in **tape**-automated bonding process, semiconductor jointing boards and devices therewith

IN Sawamura, Taiji; Konishi, Yukitsuna; Kigoshi, Shoji

PA Toray Industries, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM H01L021-60

ICS H01L021-60; B32B007-12; C09J007-02; C09J163-00; C09J177-06

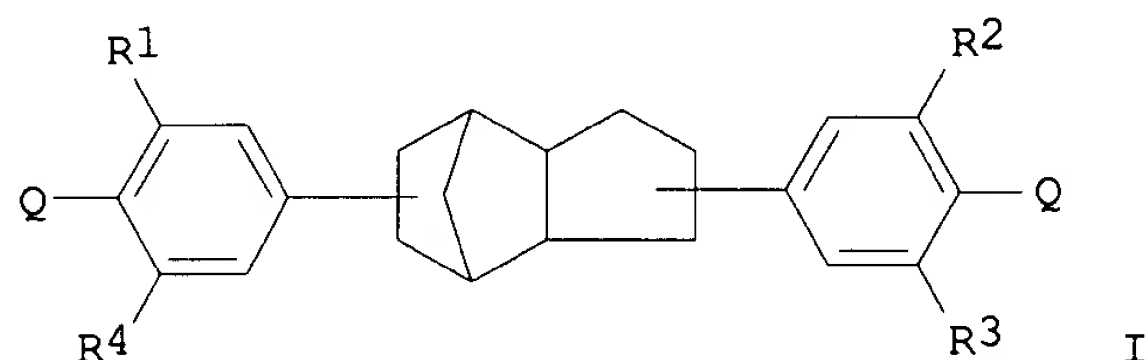
CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 76

FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09289231	A2	19971104	JP 1997-35941	19970220
	US 6303219	B1	20011016	US 1997-945221	19971201
	US 2002025431	A1	20020228	US 2001-940513	20010829
PRAI	JP 1996-31782	A	19960220		
	JP 1996-30500	A	19960219		
	JP 1996-30501	A	19960219		
	WO 1997-JP453	W	19970219		
	US 1997-945221	A3	19971201		

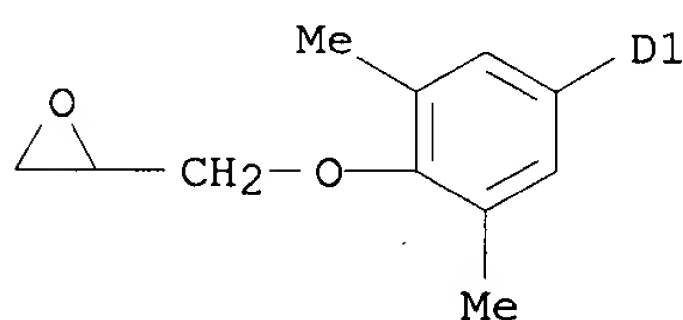
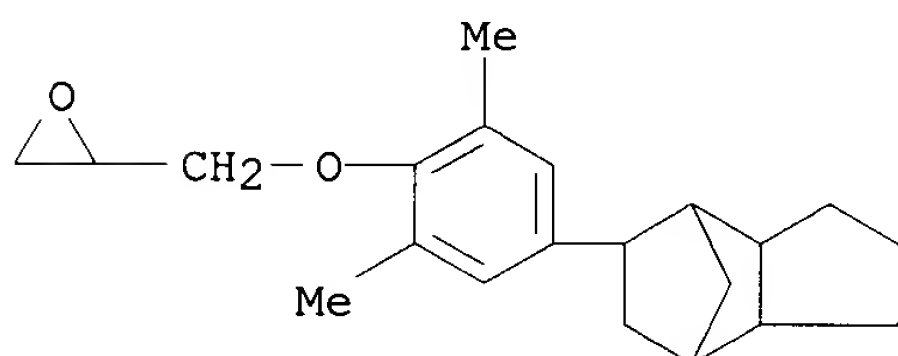
GI



I

- AB Title **tapes** comprise flexible org. elec. insulating base films, protective top layers, and **adhesive** middle layers consisting of thermoplastic resins and epoxy resins contg. I (Q = glycidoxy; R1-R4 = H, C1-4 alkyl, halogen). An org. soln. contg. ZX 1257 (dicyclopentadiene epoxy resin) 20.0, CKM 1282 29.5, dimer acid-hexamethylenediamine copolymer (acid value of 1.0, amine value of 2.0) 50, and an imidazole 0.5% was coated on a Upilex 75S film, baked, and hot laminated with a Cu foil to form a Cu-clad **tape**, which was coated with a photoresist and etched to form a patterned **tape** showing adhesion retention 97.8% after Sn plating and elec. insulation >200 h at 130.degree., 85% relative humidity, and 100 V.
- ST polyamide dicyclopentadiene epoxy resin **adhesive tape**;
elec insulating **adhesive tape** semiconductor device;
chem resistance adhesion epoxy **adhesive tape**
- IT Polyimides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(base films; polyamide- and dicyclopentadiene epoxy resin-contg. **adhesive tapes** used in **tape**-automated bonding process)
- IT Polyamides, uses
Polyamides, uses
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(epoxy, phenolic; polyamide- and dicyclopentadiene epoxy resin-contg. **adhesive tapes** used in **tape**-automated bonding process)
- IT **Adhesive tapes**
Electric insulators
Semiconductor devices
(polyamide- and dicyclopentadiene epoxy resin-contg. **adhesive tapes** used in **tape**-automated bonding process)
- IT Epoxy resins, uses
Epoxy resins, uses
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyamide-, phenolic; polyamide- and dicyclopentadiene epoxy resin-contg. **adhesive tapes** used in **tape**-automated bonding process)
- IT 32197-39-0, Upilex 75S
RL: TEM (Technical or engineered material use); USES (Uses)
(base films; polyamide- and dicyclopentadiene epoxy resin-contg. **adhesive tapes** used in **tape**-automated bonding process)
- IT 124-09-4DP, Hexamethylenediamine, polymers with dimer acids and dicyclopentadiene epoxy resins and phenolic resins 25068-38-6DP, Bisphenol A epoxy resin, polymers with dicyclopentadiene epoxy resins and dimer acid-based polyamides and phenolic resins 57459-88-8DP, CKM 1282, polymers with dicyclopentadiene epoxy resins and dimer acid-based polyamides **172305-87-2DP**, ZX 1257, polymers with dimer acid-based polyamides and phenolic resins
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyamide- and dicyclopentadiene epoxy resin-contg. **adhesive tapes** used in **tape**-automated bonding process)
- IT 7440-50-8, Copper, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(polyamide- and dicyclopentadiene epoxy resin-contg. **adhesive**

tapes used in **tape**-automated bonding process)
 IT 172305-87-2DP, ZX 1257, polymers with dimer acid-based polyamides and phenolic resins
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyamide- and dicyclopentadiene epoxy resin-contg. **adhesive**
tapes used in **tape**-automated bonding process)
 RN 172305-87-2 HCAPLUS
 CN Oxirane, 2,2'-[(octahydro-4,7-methano-1H-indene-5,?-diyl)bis[(2,6-dimethyl-4,1-phenylene)oxymethylene]]bis-, homopolymer (9CI) (CA INDEX NAME)
 CM 1
 CRN 167569-00-8
 CMF C32 H40 O4
 CCI IDS



L23 ANSWER 10 OF 11 HCAPLUS COPYRIGHT 2003 ACS

AN 1997:394006 HCAPLUS

DN 127:18777

TI Thermosetting epoxy resin compositions for adhesive films

IN Tasaka, Yoshihiko; Hiroshige, Yuji

PA Minnesota Mining And Mfg. Co., Japan

SO Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08L063-00

ICS C08G059-40; C09J007-00; C09J163-00

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 37

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09095600	A2	19970408	JP 1995-253621	19950929
	WO 9712009	A1	19970403	WO 1996-US14492	19960906
	W: CN, KR, MX, SG, US				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				

PRAI JP 1995-253621

19950929

AB Compns. for adhesive films are obtained by dispersing (1) epoxy resin curing agents and (2) solid rubber particles in a liq. matrix comprising (3) epoxy resins free of radiation-polymerizable functional groups, (4) compds. having both radiation-polymerizable functional groups and functional groups reactive toward the epoxy resins and the curing agents, and (5) compds. contg. radiation-polymerizable functional groups, but free of functional groups reactive toward the epoxy resins and the curing agents and irradiating and polymg. the dispersion. An adhesive film was prepd. by UV irradiation of a compn. including epoxy resin YD 134 66.7, epoxy resin YD 128 33.3, modified dicyandiamide-type curing agent AH 162 10.8, imidazole-type curing agent 3.9, glycidyl methacrylate 10.2, dicyclopentanyl methacrylate 9.6, acryloylmorpholine 14.3, and core-shell-type rubber particle Paraloid EXL 2655 14.8 parts.

ST adhesive film thermosetting epoxy resin

IT Synthetic rubber, uses

RL: MOA (Modifier or additive use); USES (Uses)

(butadiene-methacrylic-styrene, Paraloid EXL 2655; thermosetting epoxy resin compns. for adhesive films)

IT Adhesive films

(thermosetting epoxy resin compns. for adhesive films)

IT Epoxy resins, uses

RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(thermosetting epoxy resin compns. for adhesive films)

IT 25053-09-2, Butadiene-methyl methacrylate-styrene copolymer

RL: MOA (Modifier or additive use); USES (Uses)

(rubber; thermosetting epoxy resin compns. for adhesive films)

IT **189880-20-4P 190324-48-2P 190325-02-1P**

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(thermosetting epoxy resin compns. for **adhesive** films)

IT 177256-30-3, Staphyloid AC 3355 180032-02-4, BPA 328

RL: MOA (Modifier or additive use); USES (Uses)

(thermosetting epoxy resin compns. for adhesive films)

IT **189880-20-4P 190324-48-2P 190325-02-1P**

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(thermosetting epoxy resin compns. for **adhesive** films)

RN 189880-20-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, octahydro-4,7-methano-1H-inden-5-yl ester, polymer with (chloromethyl)oxirane, cyanoguanidine, 4,4'-(1-methylethylidene)bis[phenol], 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane], Novacure HX 3088, oxiranylmethyl 2-methyl-2-propenoate and 4-(1-oxo-2-propenyl)morpholine (9CI) (CA INDEX NAME)

CM 1

CRN 149779-74-8

CMF Unspecified

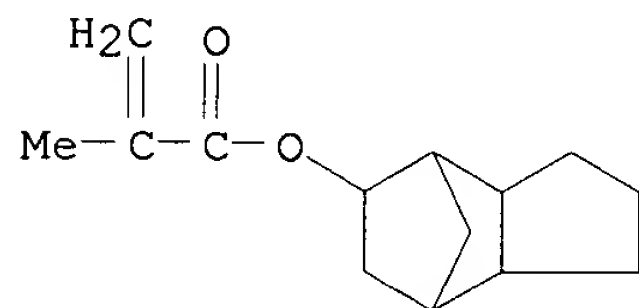
CCI MAN

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CM 2

CRN 34759-34-7

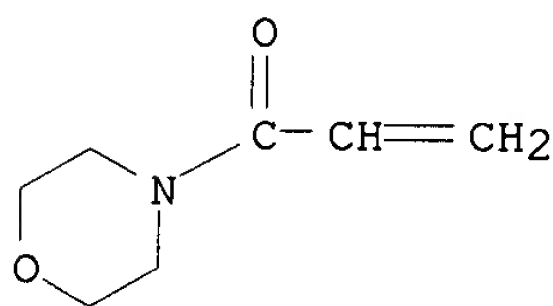
CMF C14 H20 O2



CM 3

CRN 5117-12-4

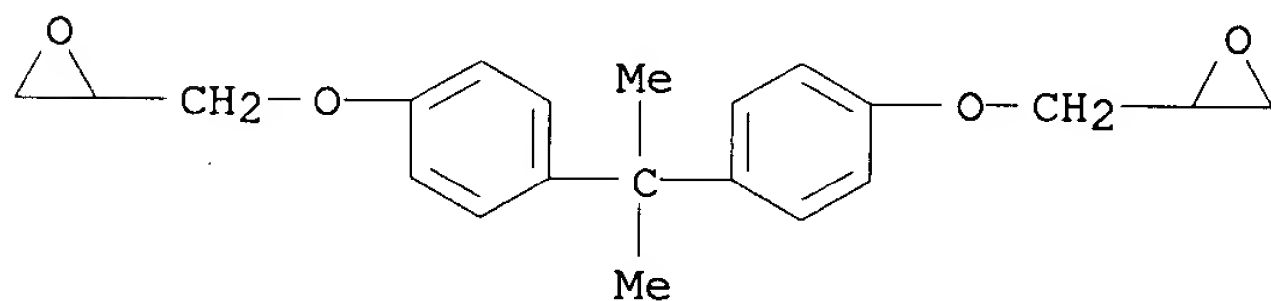
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CM 4

CRN 1675-54-3

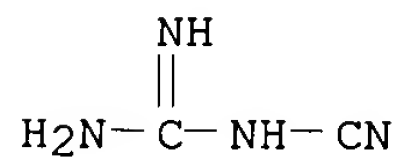
CMF C21 H24 O4



CM 5

CRN 461-58-5

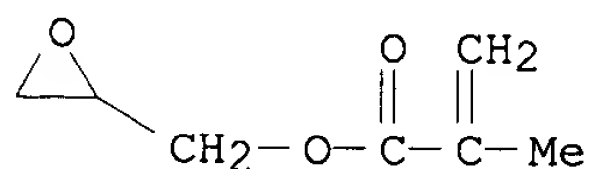
CMF C2 H4 N4



CM 6

CRN 106-91-2

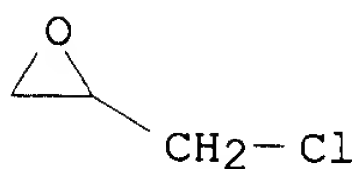
CMF C7 H10 O3



CM 7

CRN 106-89-8

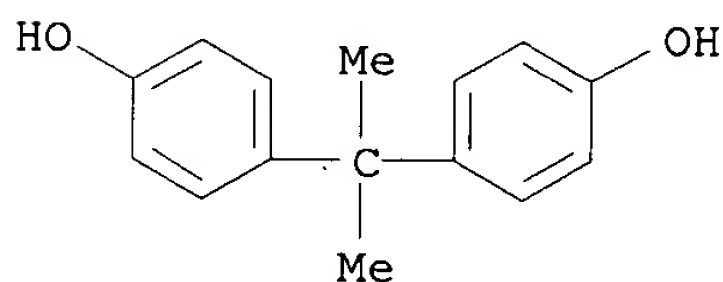
CMF C3 H5 Cl O



CM 8

CRN 80-05-7

CMF C15 H16 O2



RN 190324-48-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, octahydro-4,7-methano-1H-inden-5-yl ester, polymer with ACR-H 3842, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane], Novacure HX 3088, oxiranylmethyl 2-methyl-2-propenoate and 4-(1-oxo-2-propenyl)morpholine (9CI) (CA INDEX NAME)

CM 1

CRN 190280-81-0

CMF Unspecified

CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 149779-74-8

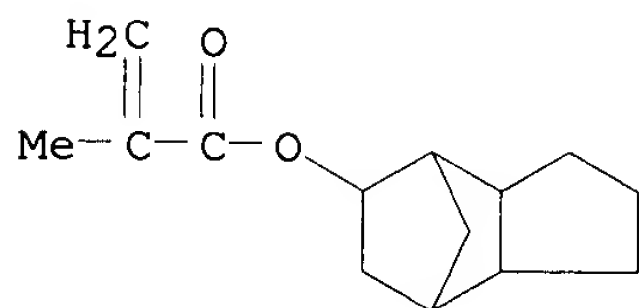
CMF Unspecified

CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

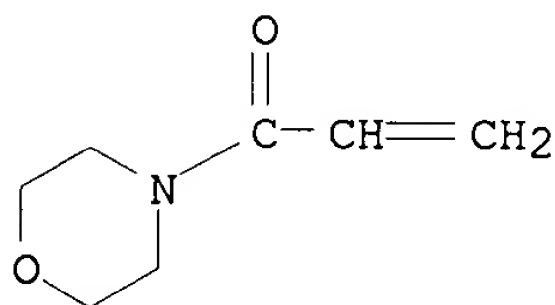
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CRN 34759-34-7
CMF C14 H20 O2



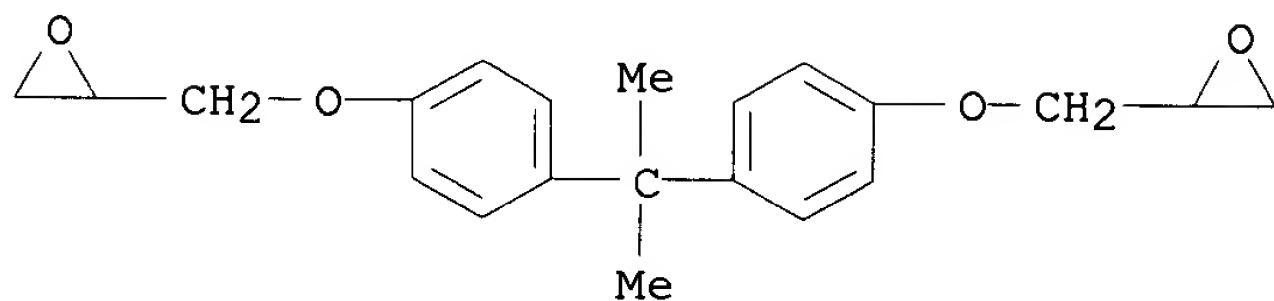
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CRN 5117-12-4
CMF C7 H11 N O2



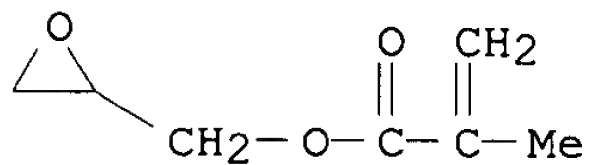
CM 5

CRN 1675-54-3
CMF C21 H24 O4



CM 6

CRN 106-91-2
CMF C7 H10 O3



RN 190325-02-1 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, octahydro-4,7-methano-1H-inden-5-yl ester,
polymer with ACR-H 3842, (chloromethyl)oxirane, 4,4'-(1-methylethylidene)bis[phenol], 2,2'-[(1-methylethylidene)bis(4,1-

phenyleneoxymethylene)]bis[oxirane], Novacure HX 3088, oxiranylmethyl
2-methyl-2-propenoate and 4-(1-oxo-2-propenyl)morpholine (9CI) (CA INDEX
NAME)

CM 1

CRN 190280-81-0

CMF Unspecified

CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 149779-74-8

CMF Unspecified

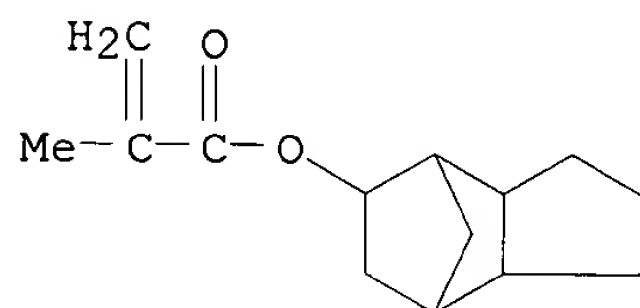
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CM 3

CRN 34759-34-7

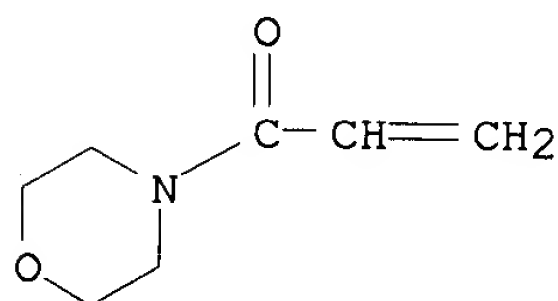
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CM 4

CRN 5117-12-4

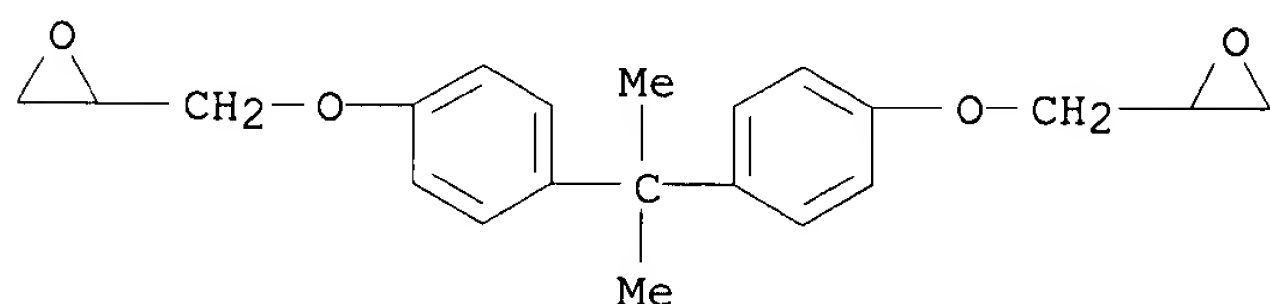
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CM 5

CRN 1675-54-3

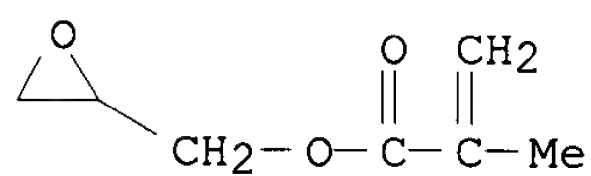
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CM 6

CRN 106-91-2

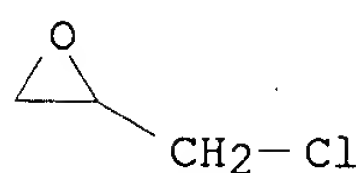
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CM 7

CRN 106-89-8

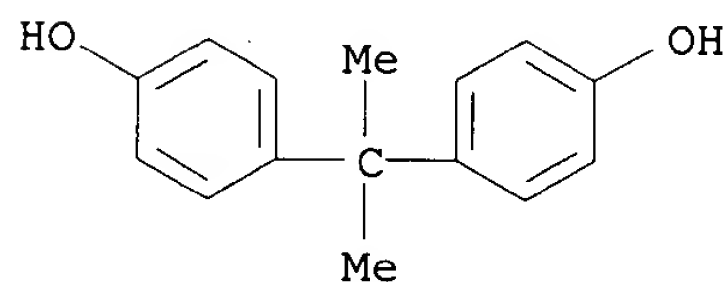
CMF C3 H5 Cl O



CM 8

CRN 80-05-7

CMF C15 H16 O2



L23 ANSWER 11 OF 11 HCAPLUS COPYRIGHT 2003 ACS
AN 1996:574280 HCAPLUS
DN 125:197922
TI Adhesive films using epoxy acrylic resin compositions
PA Minnesota Mining and Mfg. Co., USA
SO Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C09J007-00

ICS C09J133-08; C09J163-00

CC 38-3 (Plastics Fabrication and Uses)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08165459	A2	19960625	JP 1994-309231	19941213
PRAI	JP 1994-309231		19941213		
AB	Adhesives contain epoxy compds., hardening agents dispersed as 1-100 .mu.m granules, compds. having .gtoreq.1 UV-polymerizable (meth)acryloyl group and polymd. by UV to give homopolymers having glass transition temp. 25.degree.-180.degree., compds. reactive to the above compds., and photoinitiators. Thus, a UV-cured film was prepd. from 7:3 DER 332-Epo Tohto YD 011 100, dicyandiamide 8.8, H 3615S (a polyamine deriv.) 3.5, 2-hydroxy-3-phenoxypropyl acrylate 7.9, cyclohexyl methacrylate 14.6, acrylic acid 2.2, and Darocur 1173 0.2 part.				
ST	epoxy acrylic adhesive film; UV crosslinking adhesive film; catalyst crosslinking adhesive film				
IT	Crosslinking agents (polyamines; UV-cured epoxy acrylic resin compns. for adhesive films)				
IT	Epoxy resins, uses RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (acrylic, UV-cured epoxy acrylic resin compns. for adhesive films)				
IT	Acrylic polymers, uses RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (epoxy, UV-cured epoxy acrylic resin compns. for adhesive films)				
IT	Adhesives (films, UV-cured epoxy acrylic resin compns. for adhesive films)				
IT	Polymerization catalysts (photochem., Darocur 1173; UV-cured epoxy acrylic resin compns. for adhesive films)				
IT	Amines, uses RL: MOA (Modifier or additive use); USES (Uses) (poly-, crosslinking agents; UV-cured epoxy acrylic resin compns. for adhesive films)				
IT	181221-51-2P 181221-54-5P 181221-56-7P 181221-58-9P 181221-59-0P 181221-60-3P 181221-61-4P 181221-62-5P 181221-63-6P 181221-64-7P 181221-65-8P 181221-66-9P 181221-67-0P 181221-68-1P 181221-73-8P 181221-74-9P 181226-27-7P RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (UV-cured epoxy acrylic resin compns. for adhesive films)				
IT	7473-98-5, Darocur 1173 RL: CAT (Catalyst use); USES (Uses) (polymn. catalysts; UV-cured epoxy acrylic resin compns. for adhesive films)				
IT	181221-59-0P 181221-62-5P 181221-64-7P 181221-66-9P 181221-74-9P RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (UV-cured epoxy acrylic resin compns. for adhesive films)				
RN	181221-59-0 HCAPLUS				
CN	2-Propenoic acid, 2-methyl-, cyclohexyl ester, polymer with ACR-H 3615S, cyanoguanidine, 2-hydroxy-3-phenoxypropyl 2-propenoate, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane], octahydro-4,7-methano-1H-inden-5-yl 2-methyl-2-propenoate and 2-propenoic				

acid (9CI) (CA INDEX NAME)

CM 1

CRN 149175-35-9

CMF Unspecified

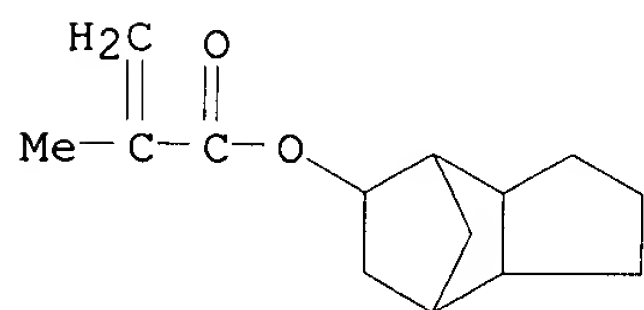
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CM 2

CRN 34759-34-7

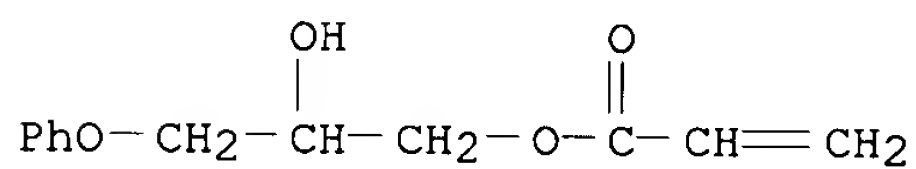
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CM 3

CRN 16969-10-1

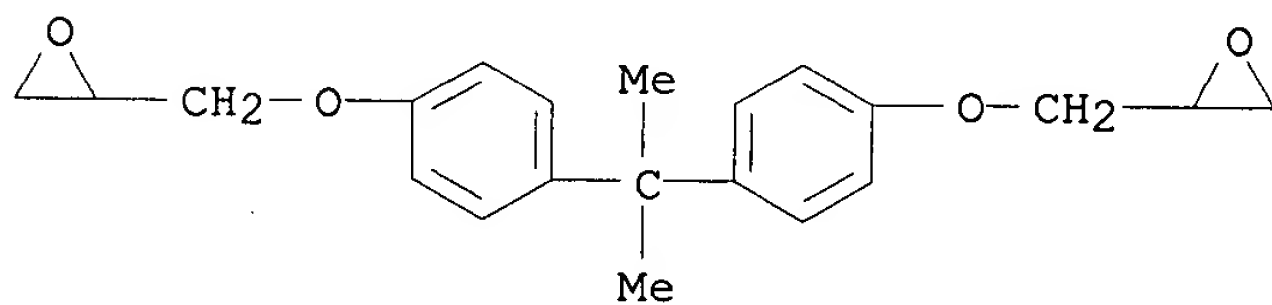
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CM 4

CRN 1675-54-3

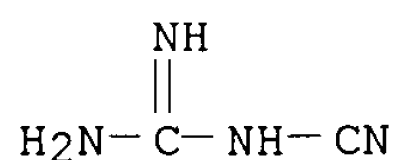
CMF C21 H24 O4



CM 5

CRN 461-58-5

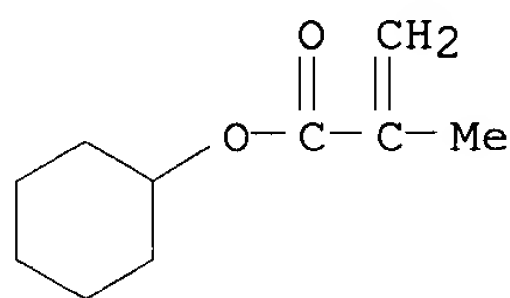
CMF C2 H4 N4



CM 6

CRN 101-43-9

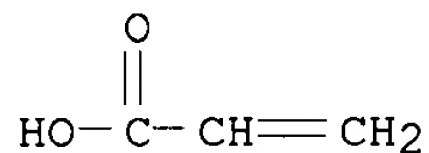
CMF C10 H16 O2



CM 7

CRN 79-10-7

CMF C3 H4 O2



RN 181221-62-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, octahydro-4,7-methano-1H-inden-5-yl ester, polymer with ACR-H 3615S, cyanoguanidine, 2-hydroxy-3-phenoxypropyl 2-propenoate, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane] and 2-propenoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 149175-35-9

CMF Unspecified

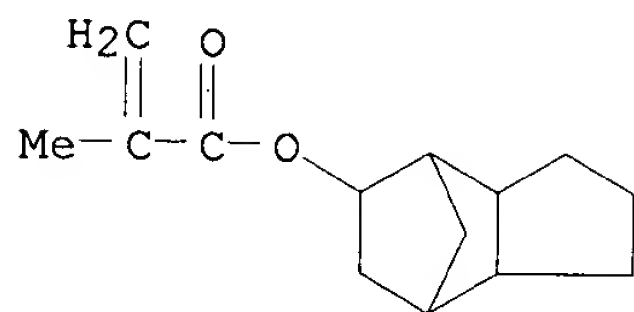
CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 34759-34-7

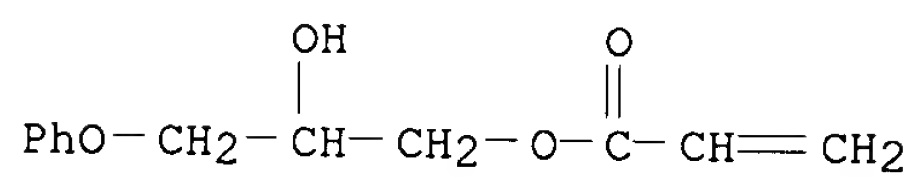
CMF C14 H20 O2



CM 3

CRN 16969-10-1

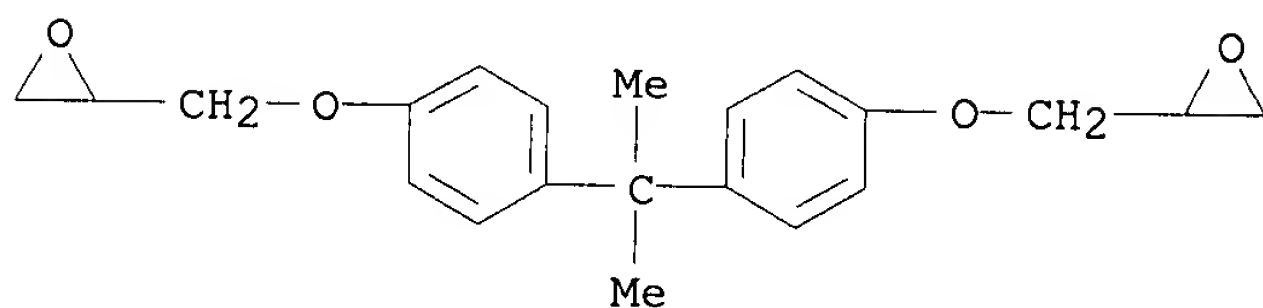
CMF C12 H14 O4



CM 4

CRN 1675-54-3

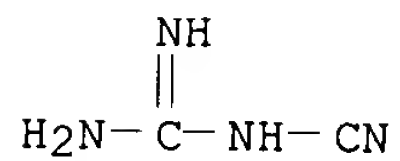
CMF C21 H24 O4



CM 5

CRN 461-58-5

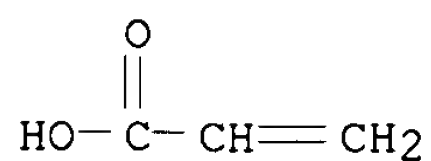
CMF C2 H4 N4



CM 6

CRN 79-10-7

CMF C3 H4 O2



RN 181221-64-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, cyclohexyl ester, polymer with ACR-H 3615S, cyanoguanidine, 2-hydroxy-3-phenoxypropyl 2-propenoate, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane] and octahydro-4,7-methano-1H-inden-5-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 149175-35-9

CMF Unspecified

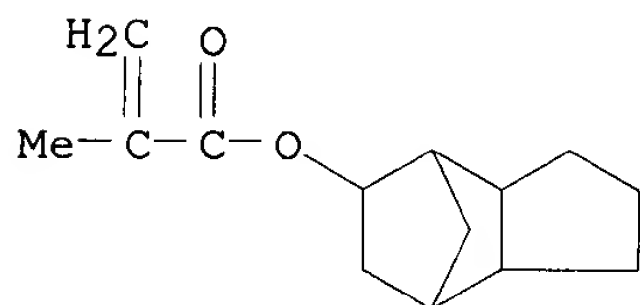
CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 34759-34-7

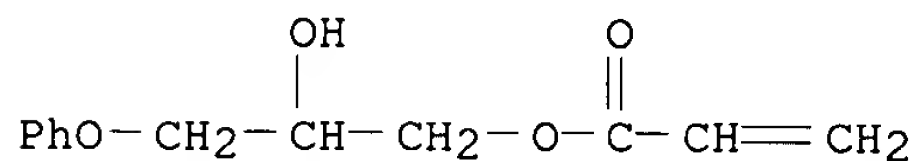
CMF C14 H20 O2



CM 3

CRN 16969-10-1

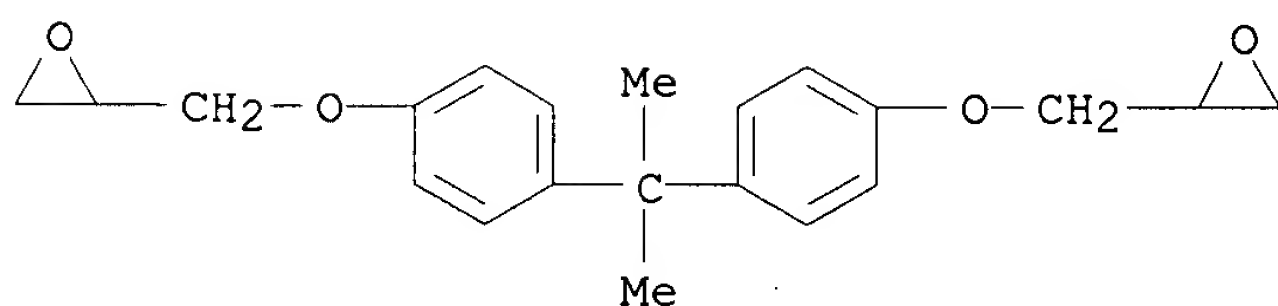
CMF C12 H14 O4



CM 4

CRN 1675-54-3

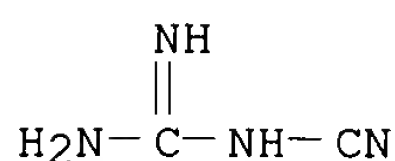
CMF C21 H24 O4



CM 5

CRN 461-58-5

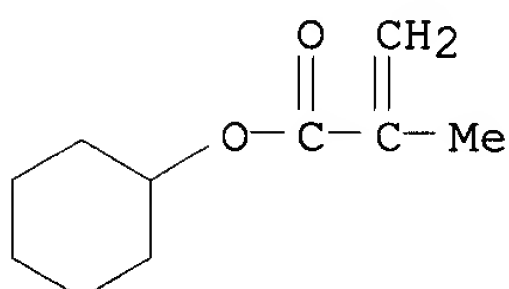
CMF C2 H4 N4



CM 6

CRN 101-43-9

CMF C10 H16 O2



RN 181221-66-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, octahydro-4,7-methano-1H-inden-5-yl ester, polymer with ACR-H 3615S, cyanoguanidine, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane] and oxiranylmethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 149175-35-9

CMF Unspecified

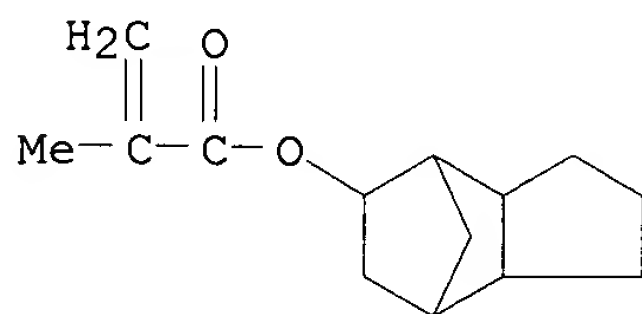
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*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 34759-34-7

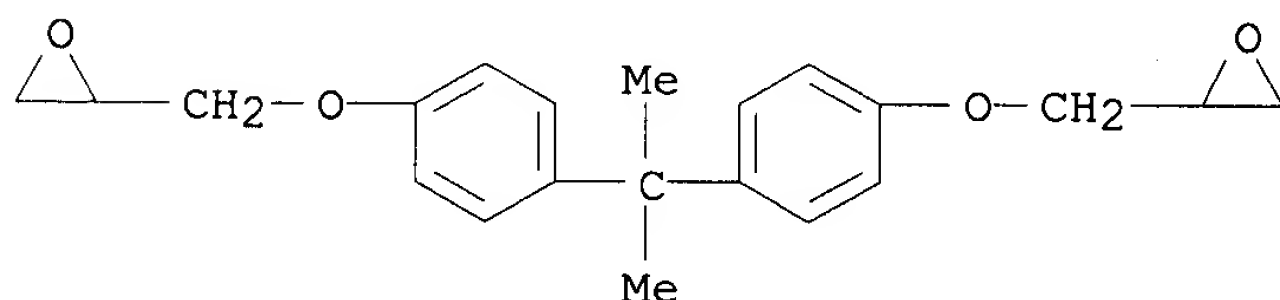
CMF C14 H20 O2



CM 3

CRN 1675-54-3

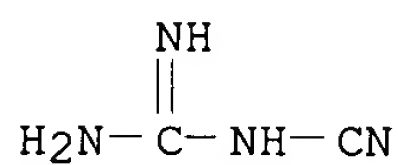
CMF C21 H24 O4



CM 4

CRN 461-58-5

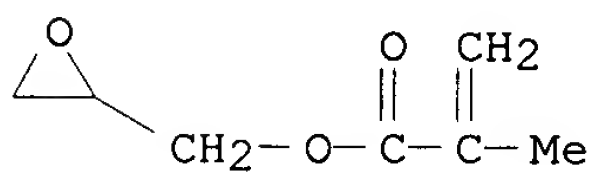
CMF C2 H4 N4



CM 5

CRN 106-91-2

CMF C7 H10 O3



RN 181221-74-9 HCAPLUS